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THE

HYGIENIC FAMILY PHYSICIAN:

A COMPLETE GUIDE

FOR THE

Preservation of Health,

AND THE

TREATMENT OF THE SICK

WITHOUT MEDICINE.

IN FOUR PARTS.

BY M. G. KELLOGG, M. D.

PUBLISHED AT
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PREFACE.

THERE is probably no subject concerning which the majority of mankind give so little thought while in health, or which causes them such deep solicitude when either themselves or their friends are sick, as that which relates to the treatment of disease. The reason why this is the case is obvious. When both ourselves and our friends are in health, we have no special inducement to give the matter of treating the sick a thought; and when either they or ourselves are sick, if we do not know how to treat the patient, we can but feel solicitous lest what we are doing may not be the best thing that could be done. The old adage which says, "In time of peace, prepare for war," contains a principle applicable to the subject under consideration. It might be stated thus: In time of health, prepare for disease. It would be far better, however, if, when in health, we could and would so live as to be able to retain health throughout the entire period of life—until worn out with old age.

Were we fully acquainted with the laws of life and health, there can be no doubt that, by conforming to those laws to the extent of our power, we might escape many of the ills to which flesh is supposed to be heir, yet even then we should still be liable to sickness and death, because of circumstances over which we have no control. But all are not acquainted with the laws of health. In fact, there are very few that have any just conception of what is necessary to the continuation of health, therefore, all are more or less liable to be prostrated with disease. This being the case, it is highly important that every person should acquaint himself with the laws of his being, and learn just the conditions requisite to health, and the proper method of treatment to pursue to

restore those conditions should any of them ever become wanting, as in disease.

The design of the writer of the following pages has been to place within the reach of all a general outline of the laws of health, and of the conditions requisite thereto, and also such information as shall enable them to understand just what to do for those who are sick. If this little work shall be the means of enlightening the reader upon the subjects concerning which it treats, and of helping him to prolong his life, or to improve his health, it will have accomplished its mission.

In concluding this introduction, the writer would acknowledge that, while some of the ideas advocated in the following pages may be new, and peculiar to himself, yet he is indebted for most of them to the teachings and writings of such men as Trall, Graham, Shew, Alcott, Bell, Pavy, Brinton, Chambers, Inman, Dalton, Gould, Bennet, Tanner, and others. He would also state that it has been his aim to present his ideas in the clearest language possible; therefore, whenever he has found ideas which he wished to present in this work stated by others in a clearer manner than he could well express them, he has in such instances used the language of some of the above-mentioned authors, although no mention is made of the authors whose language is thus used.

He would also state that, while he has endeavored to present facts to the reader, and to point out the results of certain habits of life, or of certain modes of treating disease, he has, at the same time, endeavored to show the reason why these results may be expected. In that part of the work giving directions for treating the sick, he has been governed, first, by the general principles on which the system of hygienic medication is based, and, secondly, by the experience, not only of himself, but also of the most experienced hygienic physicians in the land.

M. G. K.

BATTLE CREEK, MICH., NOV. 1, 1873.

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NOTE TO THE READER.

IN giving directions for treating special diseases in Part IV. of this work, the object has not been to present an unvarying routine of baths for the patient, but to suggest several baths, and other applications of water, any of which would be suitable to the disease. It is to be hoped that the reader will carefully study the following pages, especially Parts I. and II., and also those portions that treat of general principles, until he fully understands why and how water and other hygienic agents are applicable in the treatment of disease. If this is done, there will be no difficulty in prescribing for the treatment of disease without the help given in connection with the description of special diseases in this work.

M. G. K.



PART I.

HEALTH AND HYGIENIC AGENTS.

HEALTH is that condition of the body in which every organ performs its whole duty; and as health consists of the proper performance of all the organic functions, it follows that health is *normal vital action*. When every organ of the body performs its whole duty, there is an equalized or balanced condition of the circulation of the blood in all parts of the system, and, consequently, a proportionate distribution of vital force. The digestive organs transform the food into good blood, the lungs receive sufficient air to properly vivify the life fluid, while the circulatory organs convey it in an even and steady current to all parts of the system, and the depurating organs excrete therefrom the broken-down tissue, or worn-out material, and effete matters. When the system is properly maintained, it does not diminish in size or strength, neither does it become clogged with gross matter; but everything moves on in perfect harmony among the vital organs, and the mind is cheerful, hopeful,

and clear, and the individual is happy. Such is health. There are certain conditions on which health is based, which it is highly important that we should understand if we would know how to restore the sick to health; for it is the absence, or change, of these conditions, that occasions disease. Now as disease is an effect, it is evident that if we would have the effect cease, we must remove the cause; and this we do when we supply the conditions on which health is based.

HYGIENIC AGENTS, OR THE CONDITIONS ON WHICH HEALTH IS BASED.

AIR.

This element is the first requisite to life and health. Without air, no living thing could survive beyond a very brief space. Air is the first thing required by every being at its birth. The blood, while circulating through the lungs, comes in contact with the air contained within the air-cells and passages, and receives oxygen therefrom, thereby becoming vivified. This vivification of the blood is very essential to the maintenance of life, for the amount and intensity of the vital force possessed by the flesh tissues depend largely upon the proper and constant aeration of the vital fluid, which is principally effected by the

lungs, and can only be properly performed during full and free respiration.

The part played by oxygen in the maintaining of life, so far as is known, is this: It burns up the broken-down tissues, and thus converts them into carbonic-acid gas and ashes. The gas is immediately absorbed by the red corpuscles of the blood, and is by them conveyed to the lungs, where it is exchanged for oxygen. It is this exchange of carbonic-acid gas for oxygen that constitutes aeration. The ash which is left after the burning of the broken-down tissues, is held in solution by the serum of the blood, and is by it transported to the various organs of depuration, by which it is separated from the blood and discharged in the urine, perspiration, bile, and fecal matters. If oxygen is not received into the system in sufficient quantity, the broken-down tissues are not removed from among the living ones as they should be, and in consequence, their presence prevents the formation of new tissue, and thus the body is not properly maintained. On the other hand, if oxygen is received into the system in sufficient quantity, all the worn-out matter is burned, or oxidized, and ample opportunity is given for the rebuilding or repairing of all parts. Another benefit derived from the oxidation of the wastes of the body is the evolution of heat; for it is by this process that the animal heat is produced and maintained. The

demand for oxygen to assist in the work of disintegration as above described, is so great that an amount of blood equal to the entire volume of that contained in the body is carried to the lungs every three or four minutes for the purpose of throwing off its load of carbonic-acid gas and receiving a fresh supply of oxygen. Now, as air sustains so important a relation to life and health, it is highly important that it should be received into the lungs in as pure a condition as possible. For this reason, every person, whether in health or in disease, should be located where he will not inhale the noxious gases that are thrown off by decaying vegetable or animal substances, nor those that arise from the chemical combination of minerals; and he should always see that his living and sleeping rooms are well ventilated both day and night.

LIGHT.

The sun is the great source of life for all vitalized structures or creatures upon the earth. Without its genial influences, nothing that now lives could long survive, and no more vitalized structures, either vegetable or animal, could be produced. The plant cannot grow when deprived of sunlight. Place it in a dark cellar, and feed it with the choicest of fertilizers, and water it with the best of plant drinks; yet if deprived of sunlight, it will not flourish, but gradually

weakens. Its bright colors fade, it soon ceases to grow, and finally dies. This is also true of every member of the animal kingdom. Deprive them of the influence of sunlight, and they soon lose their activity, and their vitality gradually diminishes. The same is also true of human beings. Those who are most in the sunlight are the most hardy of the race.

A child can be raised no more successfully in the dark, or in deep shade, than can a vegetable. Look at those who are reared in the darkened rooms and shaded streets of our crowded cities. They are puny, sickly persons. The mortuary tables show that one-half of the offspring of those who live in populous cities die under five years of age, and that very few of the other half reach the age of forty years; while of those who are born in the crowded tenement houses or in habitations situated on dark or shaded streets, very few reach manhood or womanhood. The majority pass into the grave in childhood, and of those that survive, the major part have but feeble constitutions and are always ailing. Look at the daughters of the wealthy. Why is it that they are so enfeebled? The fact that they are kept in from the sunshine lest their skin should become tawny, and the additional fact that the sunlight is shut out from their dwelling rooms and parlors lest it should fade the rich carpets and injure the elegant furniture, is one of the

chief reasons why the bloom of health disappears from their cheeks.

As a hygienic agent, sunlight stands second to very few others. So important is its influence to the manifestation and maintenance of life and health that human beings should ever seek to spend as much as possible of their time in the light.

Throw open the shutters and let in the sunshine if you would have health. The sick, especially, should be allowed to enjoy all the benefits which are imparted by this health-giving agent. There are very few diseases from which the patient would not recover quicker in a light room than in a darkened one. Light imparts cheerfulness, confidence, and trust; while darkness, or deep shade, always produces a tendency to gloom, despondency, and dread, in the sick or nervous person.

Sunlight and pure air serve to prevent dampness and the formation of vegetable mold, and also serve to drive these from every nook and corner into which they are permitted to enter.

In fact, these two agents—sunlight and pure air—occupy so important a position as hygienic agents that very many diseased individuals can never regain health until they adopt the plan of living much of the time in the open air, or at least where they shall receive the full benefit of the sun's genial rays and the invigorating influences of a pure atmosphere. Hence, we say to

those who have charge of the sick, Admit the sunlight freely to your patients at all times, unless they have weak eyes or are uncommonly nervous; but even then do not shut out all light.

WATER.

As a hygienic agent, water occupies a position of great importance. It constitutes by far the greater portion of the bulk and weight of the body, and forms a very essential element in all of its tissues, some of them being almost wholly composed of water, of which the brain is an example. Water is also the chief constituent of the blood, and is the medium by which the vitalized corpuscles, albumen, fibrine, and caseine—materials of which the tissues of the body are built—are transported to those parts where needed for the purpose of repairing or building the tissues. It also serves as a means of transportation for conveying the worn-out material and effete matters to those organs whose duty it is to remove them from the system.

Another purpose which water serves is that of purification. The skin is an important organ of depuration, more than one-half of the effete matters of the system being thrown out by it in connection with the insensible perspiration. These soon form a scaly incrustation which closes the pores of the skin unless it be kept cleansed with water. Many times individuals are made sick be-

cause their skin has become clogged with impurities through want of proper bathing.

Soft water only should be used. When it is possible to obtain it, none but pure soft water should be used either for purposes of bathing, drinking, or cooking. In some parts of the country, springs of soft water are to be found; while in others, soft water is obtained by digging wells. There are, however, many very large sections where only hard water can be obtained from either springs or wells; yet there are few habitable portions of the earth's surface where a sufficient quantity of soft water cannot be obtained by catching the rain as it falls and storing it in cisterns, where it can ever be ready at hand for use.

Hard water should not be used either for cooking, drinking, or bathing, when soft water can be had, for the reason that the hard water contains certain mineral substances which are injurious to life, such as lime, salt, magnesia, borax, alum, iron, sulphur, etc. None of these, when taken into the system, are usable either in building up the tissues or in maintaining life; and the organs of depuration, *i. e.*, the liver, kidneys, mucous membrane of the intestines, skin, and lungs have to remove them from the system the same as they do the ashes and effete matters spoken of under the head of air; otherwise, the entire system would become clogged with them, the circulation

would be impeded, the body thereby would be improperly maintained, and death would soon ensue.

One of the reasons why so many people suffer so much with diseased livers, kidney difficulties, lung complaints, bowel complaints, agues, fevers, skin diseases, rheumatism, etc., is because they drink hard water. The mineral substances taken into the system with the water have all to be cast out of the system by the above-mentioned organs of depuration, and they become overworked, worn-out, or diseased, in their endeavors to perform the extra work which is imposed upon them.

Another evil that results from drinking hard water is the formation of hard concretions, or calculi, commonly known as gravel. These concretions may form in various parts of the body, but are usually found in the kidneys and bladder, although they sometimes occur in the lungs and also in the liver. These concretions are formed by the precipitation of the mineral substances held in solution in the blood. It is true that the use of hard water does not occasion any immediate, appreciable ill effects, yet its continued use will sooner or later break down the strongest constitution; for as the various organs of depuration expend their vitality in eliminating these substances, they have less strength wherewith to perform their usual work, and as a consequence the system becomes clogged with the wastes of

the body and disease of some kind must follow, sooner or later.

Pure water only should be used. All water that has stood long in the open air is liable to become impure, either by vegetable or animal substances falling into it, or by the absorption of certain noxious gases. Water containing vegetable or animal substances in a state of decomposition, or that has absorbed organic impurities by standing in an open vessel over night or through the day in a room that is occupied by persons or animals, is even more injurious than hard water, and should never be used without filtering.

The rain water caught on wooden roofs always contains more or less decaying vegetable matter, which comes from the wood of the roof, while the dark or yellow color of the water is due to the presence of soot, smoke, dust, and other impurities which collect upon the roof.

Rain water can be rendered nearly pure by filtering. Water is filtered naturally by passing through large and compact bodies of sand, or through porous sandstone. Such water is usually pure and soft. We can imitate nature by passing water through vessels filled with sand and charcoal. A good filter can be made by fitting a perforated false bottom into a barrel so as to leave an air chamber about three inches deep. Then lay over this bottom a layer of coarse gravel or

broken sandstone, then a second layer of broken charcoal, the lumps the size of large peas. This should be well packed, so as to prevent the finer particles from sifting through. Then fill the barrel up to within three inches of the top with finely powdered charcoal that is freshly burned, mixed with twice its bulk of fine, well-washed sand. Cover the whole with a flannel cloth, and pour on the water.

There should be a small pipe connecting with the chamber below, and this pipe should extend as high as the top of the barrel. This pipe serves as an outlet and inlet for air as the filtered water rises or falls in the chamber. There should also be a stop-cock or faucet for drawing the filtered water from the chamber. Every family who would have health should have a cistern for rain water and a filter, unless they have soft spring or well water. As before stated, stone in the bladder, gravel in the kidneys, calculi in the liver, and concretions and tubercles in the lungs are some of the evils resulting from the use of hard water.

FOOD.

The tissues of our bodies are constantly wearing out. We cannot perform a single act, or even think, without wearing out some portion of the tissues, and these require to be constantly replenished; otherwise, the whole body would soon be used up. It is this wearing-out process that

creates a demand for food. And as with all other things, so with the human body ; its nature, form, properties, and other qualities, depend largely on the nature and properties of the material from which it is constructed. In order that our bodies may be properly maintained, it is necessary that our food should be just adapted to the wants of our systems.

The food we eat should contain all the elements required to build up the body ; otherwise, some part, or the whole, of the system will be improperly sustained. If our food is mingled with, or contains, elements that are not usable in the system, the organs of depuration have additional work to do in removing these unusable elements from the system, and this extra work will soon wear them out.

Regularity should be observed in the time of eating ; for the digestive organs become weary by long-continued labor, and require rest. In order that they may obtain this rest, it is necessary that the food should be taken at stated times, and never until the previous meal has been digested, and the stomach has had sufficient time to rest.

The *quantity* of food taken at a meal has also an important influence upon the health. If food is taken in too great quantities or too frequently, it cannot be properly digested ; consequently, the health and strength of the body will not be

properly maintained, and a great amount of the vital force will be expended in expelling this same improperly digested food; for food which has not been properly digested, is not usable, and is regarded by the system as a poison, as really as is any other foreign substance.

NUMBER OF MEALS.

The American people, as a general rule, eat altogether too frequently to be healthy. After a child is three or four years of age, it should not be allowed to eat more than three times in the twenty-four hours, unless it is sick and able to take only a very little nutriment at a time. It is this pernicious habit of eating between meals that ruins the stomachs, and thus undermines the constitutions, of children. They do not eat because they are hungry; for such children know nothing of real hunger. They have a morbid appetite, an unnatural craving, but this is not hunger. Infants under one year of age should take food four or five times in the twenty-four hours, at regular intervals. After they are one year old, three meals a day will be far better than more in the majority of cases; but of this, the mother or nurse must be the judge in each case. Adults who have always been in the habit of eating three meals a day, or of eating late suppers, usually rise in the morning with but little appetite for breakfast. The mouth has a

bad taste, and they do not feel as well as after having been up a few hours. This is because they fell asleep with undigested food in their stomachs, and a part of the organs had to remain awake to digest this food ; consequently, the sleep was not as refreshing as it would have been had all of the organs rested and slept together, and especially is this true of the stomach.

The stomach is in direct connection with the brain by means of the pneumogastric nerve ; therefore, when the stomach is actively at work, the brain must of necessity be more or less disturbed. It is for this reason that late suppers should never be indulged in. Those who have properly tried the two-meal system invariably find that they are much better able to endure severe, protracted labor, either mental or physical, than they were when in the habit of eating three times a day. And, in addition, they find that their sleep is much more refreshing, they are not troubled with a disagreeable taste in the mouth on rising, and no longer suffer from sour stomach, heartburn, waterbrash, or eructations, unless they overeat, which is sometimes the case even with those who eat but twice a day.

THE KIND OF FOOD.

Each species of animals is just adapted to subsist on certain kinds of food. Some species will thrive and maintain themselves in good condition

on certain kinds of food upon which other animals would starve.

Various as are the species belonging to the animal kingdom, they all derive their food, either directly or indirectly, from the vegetable kingdom. It is true that some classes of animals subsist wholly upon animal flesh, and that other classes, man included, make flesh a large portion of their aliment; yet the animals that are thus eaten derive their nourishment directly from the vegetable kingdom, so that all the nourishment taken by even the flesh-eating animals is derived indirectly from the vegetable kingdom.

The reason why one animal can subsist upon food upon which another would starve, is that the digestive apparatus of each species of animals is just adapted to digest certain special kinds of food, and no other kind of food can be so readily converted into blood as can that to which the digestive organs are just adapted. An examination of the organs of the various species of animals, and of their habits when in a state of nature, with no artificial habits, will show us why one animal can subsist on small twigs and boughs of bushes or trees, while another uses straw or hay, and yet another subsists wholly upon grain, while a fourth uses no other food than fruit. The teeth, jaws, stomach, intestines, and other organs of these animals, will be found to differ as widely in form and texture as the

foods upon which these animals subsist differ in quality, solidity, and nutrient properties. There is no doubt but that man can subsist for a time, at least, upon very many kinds of vegetable substances, and also upon most kinds of flesh. In fact, nutrient properties are to be found in all these; but in many of them there may also be found innutritious substances that are not only useless, but actually injurious, if not poisonous, when taken into the system. In the vegetable kingdom, all those substances which possess narcotic properties, or that stimulate or irritate the nervous organism, should be rejected. This class includes spices of all kinds, peppers, pungent and aromatic roots, plants and herbs, tobacco, tea, coffee, and herb drinks of all kinds, all vegetable extracts and essential oils, together with large quantities of sugar in any of its varied forms. It leaves, however, for the free use of man, all the cultivated, and many of the uncultivated, fruits and grains, and many varieties of esculent roots, all of which, when properly prepared, are proper food for man, as well as the most nourishing that he can use.

Flesh-meat is not as good food for man as are vegetable substances. It contains no nutrient property that is not to be obtained from vegetable substances, since the animal from which the flesh is obtained derived its nourishment from the vegetable kingdom. All flesh, also, even while

the animal is still in life and health, contains more or less broken-down tissue in a state of decomposition. After the animal has been slaughtered, decomposition speedily becomes much more extensive and rapidly progresses to putrefaction. In fact, freshly slaughtered flesh is not considered by epicures as being as palatable as that which has been slaughtered a few days. It is not as sweet, juicy, or tender as it is after the process of decomposition has commenced. These three properties are all due to its partial decomposition.

Flesh-meat is said to be stimulating. This is because it contains decomposed and effete matters, the debris and worn-out tissues of the body, which are regarded by the system as poisonous. It is the effort of the system to expel these which produces the effect called stimulation.

FATS AND OILS.

These substances should never be made use of as food, for they do not contain the proper elements to build up the vital tissues. All our food contains more or less saccharine matter, as starch and sugar, and these are converted into fat in the body, so that we have an ample supply of such material without eating the fats and oils of either animals or vegetables.

MANNER OF EATING.

Food should always be thoroughly masticated. When this is done, no inconvenience will be experienced in partaking of a full meal without drink. There are two benefits to be derived from thorough mastication of the food. 1. The stomach will have less work to do, since it will not be obliged to perform any extra labor in reducing the food to a homogeneous liquid, and thereby become prematurely worn out. 2. The food becomes thoroughly insalivated only when properly masticated. The saliva is a digestive fluid, and without its aid, the food cannot be properly digested; therefore, let every person eat slowly and masticate his food well. Thirty minutes is as little time as a person should occupy in eating an ordinary meal. A portion of this time should be spent in cheerful conversation on some pleasant topic, for there is nothing more promotive to digestion than cheerfulness of mind.

FOOD FOR INFANTS.

Infants should take their nourishment in a fluid condition until nature furnishes them with teeth with which to masticate more solid kinds. The stomach of the infant differs quite materially from that of the adult, both in form and also in the texture of its walls. In infancy, its shape is much more conical than in adult life, and it is

better adapted to make use of fluid food than than at any other period of life.

A babe under two months should be nursed or fed once in three hours in the daytime, and once in the night, if restless. If the child is between two and six months old, it should be fed every three and a half or four hours in the daytime, and no oftener; and if of fair health and strength, it should not be fed during the night.

The food of the infant should be its mother's milk; but if this is not to be had, cows' milk should be substituted for it, always selecting a young, healthy, new-milch cow. Milk from very old, or diseased, or farrow cows is not fit for any human stomach. If for any cause the child cannot have its mother's milk, it may be fed on the fresh milk of a young, healthy, new-milch cow. The milk should be warm when fed to the child, and should never be given to it after it has stood twelve or fourteen hours if new milk can be had. The cream should not be removed from the milk, but should be well stirred into it. If the milk is found to be too rich, a little water should be added. In some cases, it should be half water. If the right kind of milk cannot be obtained, gruel may be made that will be as good as cows' milk, if not better. Take powdered barley (it may be ground in a perfectly clean coffee mill, or pounded in a mortar), a teaspoonful to a gill of water, and boil it fifteen or twenty minutes. Strain through

a fine sieve or strainer, and add a very little loaf sugar. If good milk can be had, add one-third milk. This should be given to the child blood-warm through a nursing bottle, keeping the bottle and mouthpiece in water, when not in use, to keep them sweet and clean. For infants under six months old, this diet will be found better than a diet of cows' milk only. Do not add much sugar, as it will make the child costive, and will occasion torpidity of its liver.

If the child becomes very costive, give it gruel made of oat-meal, or of unbolted wheat meal. Always cook it well and strain it. If barley or barley meal cannot be had, use oat-meal and graham flour instead. Graham meal, constantly used, will be apt to cause diarrhea. In this case, it should be used alternately with oat-meal, the child being given a tepid enema, followed by a small, cool enema. When diarrhea first sets in, the child should fast one meal.

The child will do better if its food is frequently changed from one of these grains to the other. Never overfeed the child. Many mothers allow their babes to nurse or feed until they have to vomit. This is wrong. Overfeeding and hot and foul air are the chief causes of summer complaint.

As the child advances in age, it will bear a larger proportion of milk in its food than was formerly used, and will also require a greater va-

riety of food. Unbolted wheat-meal bread, and most of the various grains, and sound, ripe, sweet, or subacid fruits, may be given it. Baked apples and pears are excellent, if given in small quantities.

Infants should not be allowed to eat sugar, butter, nor much cream, for these are the substances which go to make fat in the body, none of them being convertible into flesh. While it is better that these things should be abstained from entirely in most cases, yet it is true that a little cream, if diluted with soft water, is not very objectionable if only occasionally taken. The same is true of sugar used sparingly in the gruel; and in some cases, it is better that these things should be used. The chief objection to these things is their excessive use. It is impossible to lay down a rule that shall say just how much sugar or cream a person can use without injury to his system, for the organs in one individual differ so much in tone and activity from those of another that the same amount of sugar or cream that one person might eat without injury would, if eaten by another, occasion most serious results. Therefore, it is far safer to let these things entirely alone. Children should not be allowed to overeat, to eat between meals, nor to eat candies, confectionery, nor condiments of any kind. One of the chief reasons why children have sores break

out on various parts of their bodies is because they do not observe these rules.

FOOD FOR ADULTS.

Adults, and in fact all persons over two or three years of age, require solid, or semi-solid, food. By the term solid food is meant any food that is not in a sufficiently fluid state to admit of its being swallowed readily without mastication. As previously stated, the stomachs of infants are just adapted to digest milk and similar food; but as the child advances in years, its stomach gradually undergoes a change in form and structure, so that solid food is digested much more readily than is milk or other fluid substances. For this reason, our meals should be taken without drink. When we use drinks with our food, we are apt to wash it down half masticated, and, what is equally as detrimental to digestion, we fill our stomachs with fluid which serves only to dilute the gastric juice and prevent it from doing its work properly; for the food can never be digested when the stomach contains much other fluid besides the gastric juice. Even in infancy the watery portion of the food is all absorbed from the milk or fluid food before the work of digestion can commence.

The work of absorbing the fluids we drink not only retards the work of digestion, but also wea-

ries the stomach and unfits it to do its work well.

Another fact worthy of notice is, that if we accustom our teeth to masticate hard food, they will be sound, strong, and firm ; whereas if they are not so accustomed, they become weak and soon decay.

HOT DRINKS.

There is one habit, very detrimental to health, which is freely indulged in by almost every family in the land ; viz., that of taking warm or hot drinks with their meals. An incalculable amount of injury is done to the teeth by the use of hot tea, coffee, and the various slop drinks which are prepared to take the place of these, and the same is eminently true of the stomach. Hot food or drink relaxes and weakens the muscular coats of the stomach and thereby disqualifies it to do its work properly. In addition to these evils, many diseased actions and conditions are occasioned in the system by the poisonous constituents of the tea and coffee, such as the theine of the tea, and the poisonous drugs with which it is prepared and adulterated, and the caffeine of the coffee, and the foreign materials with which prepared coffee is often mixed. The same is also true of all stimulating drinks—all distilled and fermented liquors ; hence, all such drinks should be avoided, and no drink taken at any time except pure, soft water, if obtainable, or milk, or the

freshly expressed juice of sound, ripe fruit. The last, however, should be taken immediately after it is pressed from the fruit, as fermentation soon takes place. It should also be taken in very small quantities, for if taken in excess, more or less of it will ferment while in the system, before it can be used by the tissues.

TEMPERATURE.

Another very important condition upon which good health is based, is the right degree of temperature. This must be maintained; otherwise health cannot long exist, for the proper circulation of the blood depends almost wholly upon the maintenance of the proper degree of temperature in the body.

The heat of the body is all generated within the system by the friction which occurs in the processes of transformation (converting food into flesh) and disintegration (separating the worn-out tissues from the sound). In health, there is an equal development of heat in all parts of the system, the limbs being just as warm as other parts. Now as the oxidation of the wastes of the body is the chief source of animal heat, and as this oxidizing process is constantly occurring, it follows that heat is constantly generated within the system. This being the case, it is evident that unless there were some means for conducting away the surplus heat, the body would sometimes

become extremely hot. This want is incidentally supplied in the vaporization of the watery portion of the perspiration which is poured out upon the surface of the body by the sweat glands. This action is usually carried on without being observed, when it is called insensible perspiration. At such times, evaporation takes place so rapidly that the perspiration does not accumulate. While this evaporation serves to assist in removing the excretions from the system, it also serves a most important part in regulating the temperature of the body, thus enabling it to endure the vicissitudes and changes of the weather and seasons, and to adapt itself to various and diverse climates and countries. When a person is at rest, or exercising moderately, the evaporation of the small quantity of moisture which passes off insensibly is sufficient to keep the temperature of the body at the normal standard; but when violent exercise is engaged in, the wastes of the body are greatly increased and, consequently, a much larger amount of heat is produced; but the circulation being necessarily increased at the same time, the sweat glands of the skin become correspondingly active and pour out upon the surface a much greater quantity of fluid which, by absorbing the heat of the body, is converted into vapor, thus rendering latent, and removing from the body, the surplus heat which would oth-

erwise prove exceedingly detrimental to the interests of the system.

If for any cause the temperature of the body either rises a few degrees above, or sinks a few degrees below, 98° Fahrenheit, the fluids become changed, the organs cease to perform their functions, and death follows. This being the case, it is easy to understand the importance of keeping the temperature of the body as near the normal standard as possible. One very essential means of keeping the body in this condition is the taking of a bath once or twice a week, thereby keeping the skin clean and the pores open, that there may ever be a free exit for the perspiration. If for any cause the sweat glands have ceased their work, and the system has become hot and feverish, it should be frequently bathed, or dampened with wet cloths. The water used for this purpose may be either hot, warm, tepid, cool, or cold, as is most agreeable to the patient. As the water thus applied vaporizes, the heat of the body is conducted off and the fever is reduced.

Another point to be considered in regard to temperature is that all parts of the body and limbs must have an equal temperature, for without an equal temperature there cannot be an equalized circulation of the blood, and without this, health cannot exist.

CLOTHING.

It is quite probable that there is no subject concerning which so little thought is given by the majority of women as the proper mode of clothing the body so as to keep it in health. Many women, in these days of plenty, dress to look pretty and to outdo their neighbors, while very few dress with reference to the conditions that make dress a necessity. The primary necessity for dress is to prevent the too rapid escape of the heat of the body, and to protect the system from the evil effects of frequent atmospheric changes of temperature, humidity, etc.; and to meet these varying conditions should always be the chief aim in preparing clothing for the body.

In order that the temperature of the body may not be unbalanced, and one part become too warm while another part becomes too cold, it is necessary that all parts should be equally well clad. The limbs should be clothed just as warmly as the body, and still more attention should be bestowed upon the clothing of the feet if the person is of sedentary habits. But this is not the way most women dress. They clothe the body altogether too warmly, loading it down with skirts, etc., while the limbs are exposed to a constant current of air. No woman, dressed in the usual manner, can walk without creating a current of air about her limbs by the swinging

motion given to her dress. This must of necessity chill the limbs and prevent free circulation of the blood.

Look at the manner in which little girls are dressed. It is just as impossible to rear the girls of the rising generation into healthful women unless their mothers dress them more healthfully, as it would be to make a world. Health and an equalized circulation are inseparable, and such a circulation cannot exist when the body is clad more warmly than the limbs. How often we see little girls with the dress made without sleeves, and reaching only to the knee, the arms and upper part of the chest being left entirely bare, while the limbs are protected only by a pair of thin cotton drawers, which in many cases do not reach to the stockings. The effect of such a dress can only be to keep some parts of the body warm while other parts are allowed to chill. The circulation thus becomes unbalanced by the blood receding from the chilled surface and extremities, and, as a consequence, the vital organs become congested so that healthful action is impossible, and disease is the result.

The women of America are great sufferers from diseases peculiar to the sex; and as all diseases are but results, so with these. They too have been produced by causes, and of these, the cause which has contributed more than any other to bring about the diseased condition in which they

find themselves has been their manner of dress in childhood, youth, and adult life; for it is a fact that, with very few exceptions, women do not for a single day of their lives dress physiologically, the dress in adult life being just as contrary to the laws of health and hygiene as in childhood.

Another point to be considered in adjusting the dress to the body is that it should set free and easy and should not cause pressure on any part, nor interfere in the least with any movement of the body or limbs. The chest must be especially guarded against pressure or constriction. If the waist is drawn in, there cannot be free breathing; and without this, there can be but little vitality. The habit of wearing corsets or of tight lacing is very pernicious. Even the wearing of under garments fastened with bands about the waist is injurious.

Clothe the arms, limbs, and feet just as warmly as any part of the body, suspend every garment from the shoulders, make the garments so that when the lungs are filled to their utmost capacity there will be room about the waist between the garment and the body. Be sure that the garments are all so adjusted that every movement which it is possible to make with any part of the body, limbs, or arms, may be made without straining the garment, and without causing pressure. Never wear a load of skirts to keep

the limbs warm, but wear under garments that shall fit each limb separately. Let the entire body, the arms and the limbs, be enveloped in an under garment all in one piece. Over this, clothe the limbs with suitable garments that will allow of the wearing of pants that reach from the knee to the ankle joint. Let the dress be worn so as to reach within six, eight, or ten inches of the floor. Clothe the feet with warm, high stockings and with shoes or boots sufficiently large to admit of moving the toes. Keep the shoes soft and pliable. The soles should be wide and thick; the heels should be neither high nor narrow. Never wear corsets, bands, or belts, about the waist. Never wear elasties, cords, or ribbons about the limbs to hold the stockings up. Retain them in place by buttoning them to the drawers. Keep the feet warm, the head cool, the circulation even, and the temperature of the body at 98° , and you will not be sick.

EXERCISE.

Another condition on which good health is based is proper exercise. The human body is composed largely of muscular tissue. Every movement of the body or of its various organs and tissues is performed wholly by muscular contraction. There is not an organ or tissue, capable of action, in which muscular fibers do not form a part of the structure; and it is by the con-

traction of these fibers that these organs and tissues are enabled to perform their functions. There is but one function that the muscles can perform, and that is contraction or exercise. Now, as health is that condition of the body in which every organ performs, or exercises, its functions properly, it is evident that health cannot exist without exercise. To insure health, every muscle must be brought into exercise. When this is not done, the tissues become soft and flabby, the body weakens, the vital organs cease to perform their work properly, and the individual soon finds himself becoming debilitated.

One of the reasons—and it is not a slight one—why students, ministers, clerks, and women, especially the wives and daughters of the wealthy, find themselves in poor health, is because they neglect to take sufficient exercise. Exercise always strengthens and increases the health of any portion of the body by increasing the circulation of blood in the part. It also gives firmness and elasticity to the tissues. The arm of the blacksmith feels solid and firm, while that of the clerk is soft and without strength.

All who would have health must take daily exercise in the open air. See articles on Air and Light.

R E S T .

This is also a condition which is requisite to good health. Many people become diseased through want of rest; yet the same individuals might accomplish more than they now do if they only knew how to rest to the best advantage.

Rest does not consist in idleness, but chiefly in change of employment. The individual who lies in bed for forty-eight or sixty hours, thus becoming weary, will find rest by rising and engaging in labor. The same is true with the student. He, too, finds rest in manual labor, in walking, or in almost any kind of physical exercise. It is when labor is constant, and is all performed through one set of organs, that it becomes wearisome. What is required in the matter of exercise and rest is that when one set of organs have become weary, they should be allowed to rest, another set being called into immediate action.

Man is a being whose organism demands that he should manifest vitality in a diversity of ways. He requires physical, intellectual, and moral exercise, and he can act in no one of these directions continuously, or uninterruptedly, for any length of time, without positive injury to his health; neither can he possess good health unless he does, at regular periods, take exercise in each of these three ways.

Man's organs of physical action can only be

used in physical exercise ; his intellectual organs in intellectual exercise ; and his moral organs in the manifestation of moral attributes. Each of these classes of labor must be performed daily to insure the most perfect health.

TAKING EXERCISE AND REST.

If we would enjoy the most perfect health, we should be occupied from six to ten hours daily in physical labor, from two to four hours in intellectual labor, and from one to three hours in meditation and moral reflection, three to five hours in social intercourse, during which time the meals should be taken, and the remaining six or eight hours in sleep.

When the organs of voluntary motion have performed their allotted task, they should rest, and the mental organs should, for a time, be called into action by meditation upon those things which relate to the development of moral character, after which they may be exercised by investigating, for a time, some subject relating to literature, science, or social or political relations, and thereby develop the intellect. In so doing, time is afforded each part and organ for rest. Recreation should usually be taken in a social manner, since much more pleasure, and consequent benefit, will be thus derived from it than when taken otherwise. The same is equally true

of eating, since cheerful conversation and association are promotive of digestion.

SLEEP.

As has been already intimated, sleep is highly essential to health. In fact, without regular periods for sleep, there can be no health, as it is during those periods that the tissues of the body are most perfectly built up. While the individual is awake, he is more or less active, especially his sensory and motor systems of nerves. Sleep is simply the resting of the brain from all mental exercise, and the consequent cessation of the above-mentioned nerves from all labor. The amount of time required for sleep varies with different individuals. A person who is sluggish in all his habits requires more hours for sleep than a person possessed of greater activity, for the reason that he sleeps slower; that is, the reparation of his tissues is carried on less actively. He consequently requires more sleep—more time to repair and build up the various tissues of the body. It is for this reason that a man of nervous temperament requires much less sleep than others.

In order that we may derive the greatest benefit from sleep, it is essential that it should be undisturbed. When this is not the case, the work of changing the blood into the solid tissues

is also disturbed, and, consequently, the body is not maintained as it should be. We should endeavor to form the habit of sleeping during the whole period allotted to rest, without waking. To do this, these three things are quite essential :

1. We should not eat late suppers, for in so doing we place in our stomachs food that must be digested, and this work of digestion disturbs the brain and keeps it partially active, causing unpleasant dreams. To insure sound sleep, no food should be taken into the stomach later than three o'clock in the afternoon.

2. We must not become over-exhausted physically, for if we do we cannot sleep soundly ; but we should perform our heavy labor in the fore-part of the day, and as the day declines, should moderate our labor by changing from heavy work to lighter, or by doing less.

3. We should always retire for sleep with our minds free from care and anxious thought ; otherwise, our slumbers will be broken. Many persons take their business cares and anxieties to bed with them, and study and worry until they fall asleep. As a consequence, they dream of their business affairs and transactions, and pass the night in a half-wakeful condition, deriving but little benefit from their sleep. The person who would possess health of body and strength of mind must be regular in all his habits. He should attend to business only during busi-

ness hours. He should retire early and rise early. Nature indicates the time for retiring by hiding from our eyes the orb of day, thereby obscuring from our vision things that would excite wakefulness and mental activity, and by hushing all animate nature into stillness and quietude, thus bidding man also to seek repose. There is nothing that will serve the purpose of drawing our minds from the labors, cares, and business of the day as will a pleasant social interview of two or three hours, and an additional hour spent in silent meditation and communion with the Being that formed us. Children require much more sleep than do adults, for the reason that they have much more building up of tissue to do while growing than after having attained to full stature. Infants require to sleep most of the time, and children of three or four years should sleep at least one-half of the time. After children have reached the age of four or five years, they should be encouraged to rise early, and to insure sufficient time for sleep they should retire early. Habits thus formed in childhood are generally life lasting. Many parents allow their children to keep late hours, to be from home late in the evening, etc.; this is all wrong. There is liability of their children being injured morally by associating with the vicious; and there is also danger of their ruining their physical health by forming irregular habits.

While children are young, and their minds and judgments are immature, the parents are responsible for not only the health, but also for the habits and education of their children. There are many children whose minds naturally incline to study, and who will be very liable to deprive themselves of necessary sleep that they may have time to do so. Parents of such children should give them time for study at proper hours, and should see that they do not rob themselves of sleep. Let all such parents remember that if they have a child whose organism is such as to cause him to thirst for knowledge, they do violence to his nature either if they deprive him of the means of acquiring knowledge, or if they keep him so employed by day that he feels compelled to rob himself of sleep to satisfy the yearnings of his nature.

BEDS AND BEDDING.

The health of many people is most seriously, and often permanently, injured by inattention to their beds and bedding. Feather beds are very prolific sources of disease and hence ought not to be used. The feathers, being animal matter, are constantly undergoing decomposition, which is increased by the heat and moisture transmitted to them from the body, which causes them to send off noxious and poisonous gases, the result of putrefaction. These gases are absorbed and

taken into the system, thus engendering disease. Hair, straw, husks, shavings, cotton, or wool, is much better than feathers. Very soft beds are also objectionable. They should be as hard, and the bed-clothing should be as light, as may be with proper regard to comfort. On rising, in the morning, the bed should be left open for a few hours, exposed to the air, as it is filled with organic impurities that have passed off from the body with the insensible perspiration.

Beds should always be kept scrupulously clean by frequent change of the clothing. Mattresses, quilts, and blankets, as well as sheets, should be frequently cleansed. The practice of many people in allowing the same mattress to be slept upon for years without cleansing is a most filthy and disease-producing one.

Many people have taken colds that have resulted in death, while others have laid the foundation of a life-lasting disease by sleeping in damp, close rooms, or damp beds. If a room or bed has not been used for some time, both should be thoroughly aired before being occupied.

BODILY HABITS.

No person can enjoy comfortable health for any great length of time unless he is regular in all his bodily habits. The meals should be taken with regularity, and the hours for retiring and rising should vary as little as possible. It

is also equally important that the bowels should move regularly every day, and as nearly as possible at the same hour each day. Many people, by neglecting this and disregarding the calls of nature, entirely destroy the natural regularity of this one of the excretory functions. This neglect is one of the first causes of constipation, and many other diseases, as piles, diarrhea, etc.

BODILY POSITIONS.

A person while sitting, standing, walking, or exercising, should always use care to preserve, as nearly as possible, an upright position of the body, keeping the head erect and the shoulders well thrown back. If the body is bent forward, the vital organs are compressed; and if it is bent sidewise, the spine is injured.

Many persons forget that the hips are the proper place for bending the body, and they bend forward by crooking the trunk. Many parents allow their children to form a habit of sitting with the abdomen and stomach drawn in and the spine curved, with the shoulders drawn forward, and the head down. Such children will be very liable to dyspeptic difficulties and lung complaints. They will also become round shouldered and will make a very awkward appearance in society. A crooked person cannot look well.

It is better that most people should sleep without pillows, or at least with very thin ones, un-

less in the habit of sleeping upon the side. Children are often injured, and their spines distorted for life, by this habit. Those whose spines have become crooked by any of these causes should make persevering efforts to straighten themselves by always endeavoring to stand and sit erect. If they find themselves too feeble to do this long at a time, they should change their position frequently. Work, sit, stand, lie down, etc., as often as either position becomes painful, but keep the shoulders back continually.

MENTAL AND SOCIAL INFLUENCES.

Cheerfulness is greatly promotive of health, while sadness and melancholy are often precursors of disease, and are always detrimental to health. The influence of the mind over the physical conditions of the body is very great. An individual in good health may become diseased, and even die, through the sole influence of his own perverted imagination. In fact, it is often the case that individuals who are but slightly ailing dwell upon their ailments, imagining themselves in a worse condition than they really are, and give way to their morbid feelings, until they finally induce the very conditions in which they imagine themselves to be, thus, by mental influence alone, bringing themselves to the brink of the grave.

Again, many individuals who have been most seriously ill, have recovered from their ill-

ness when apparently beyond the reach of assistance. When inquiry is made concerning the cause of their recovery, it is found that they had great hope and cheerfulness, and an indomitable will that would not yield to discouragements, but which kept them ever hopeful and cheerful, which state of mind soon induced in their systems a change for the better, which, after a time, resulted in their entire recovery.

Cheerful companionship promotes health; while the society of persons who are fretful or desponding is liable to induce the same conditions in others and thereby bring them into a state in which they will be easily susceptible to the influences of disease. For this reason, a person who would have health should seek the society of cheerful companions, and should also be cheerful himself, without worrying and fretting over that which he cannot avoid, or concerning which he knows nothing. He should ever feel that if he faithfully performs all his duties, it will be safe for him to trust both himself and the consequences of his deeds with Him who sees the end from the beginning. He should also have an aim in life, a something to accomplish. Without this, he will have nothing to induce him to put forth effort and develop the full powers of his being.

A person who passes listlessly through life, with no object to accomplish, and with no feeling of sympathy and love for his fellows, can never

become fully developed ; the brain and nerve tissues will not be properly matured because not sufficiently exercised, and the individual will be liable to pass finally into a state of semi-idiotcy or of disease. Therefore, to be healthy, be cheerful, hopeful, sociable, energetic ; aim high, and try to accomplish something. Make life a success.

MORAL INFLUENCES.

There can be no doubt but that moral influences do many times affect the physical health of human beings. Inasmuch as health consists in the proper performance of all the organic functions—this is the definition given by all physiologists—it follows that if the human body possesses organs whose special function it is to manifest moral action, and if those organs are allowed to lie dormant, or if they become perverted in their actions, then perfect health cannot exist. That man has such a set of organs, is evident from the fact that all men, in every age and clime, have had, and still have, standards or rules by which to measure morality or moral character. There never yet has been a nation that did not have some law by which to judge right from wrong, neither has there ever been an intelligent human being that did not feel a consciousness that there was a difference between right and wrong. Why do men feel thus ? There can be but one answer ; viz., because they have organs

whose special function it is to manifest this very feeling of conscientiousness. An additional proof is to be found in the fact that all men are worshipping beings. They instinctively acknowledge that there is a Supreme Being to whom they owe allegiance, upon whom they are dependent for the various blessings they enjoy, and whom they are in duty bound to respect. It is true that all men are not agreed as to who or what this Supreme Being is, yet that all classes and races of men do have this feeling is evident from the fact that they all have some form of religious worship, through the ceremonies of which they endeavor to make external manifestation of their religious sentiments.

There is still another fact which teaches us that man has organs whose special function it is to manifest moral character. It is that all men are naturally hopeful. And although the present may be dark and gloomy and perilous, yet all find consolation in hope of a better future. Conscientiousness, veneration, and hope, are moral attributes, and it is the proper manifestation of these that constitutes man a moral being, and the improper manifestation of them that constitutes immorality.

The fact that the proper exercise of man's moral organs promotes health, while their perverted action promotes disease, has led to the introduction of this subject in this connection.

Man's moral nature is his highest nature, and

when this is appealed to, we have appealed to the highest motives by which he can be actuated. These moral organs control, to a very great extent, all the other organs of the body. When these act rightly, there is very great probability that all the others will act rightly also; but if the moral organs become perverted in their actions, there is greater liability of other organs becoming perverted also.

That the moral organs do control the other brain organs to a very great extent, is shown by the fact that when these organs prompt a person to action, he will pass through and endure tenfold more suffering and privation in endeavoring to accomplish an object than he will when actuated by any other incentive. It matters not whether the action of the moral organs is normal or perverted. They influence the other organs of the brain just as powerfully in the one case as in the other. It was this controlling power which moral organs exert over the other organs when acting in accordance with moral law that enabled the martyrs to subdue and control all feelings of self and family interest, and to rejoice, and even sing, while being consumed at the stake. It is the same moral influence that causes the missionary to sacrifice love of home, friends, worldly honors, emoluments, and pleasures, that he may accomplish that which his moral organs make him feel it to be his duty to do.

That these organs, when perverted, exercise an equally powerful influence over the other organs is seen in the fact that, in obedience to perverted moral organs, the heathen mother casts her offspring to the crocodiles, forgetful of all the tender sympathies and pity of a mother; the Hindoo devotee, forgetful of all self-interest, casts himself beneath the wheels of Juggernaut; and the wife, forgetful of all life's charms and duties, throws herself upon the funeral pyre, to consume with the body of her dead husband; while those who are more enlightened have been led by the same perverted organs to cut themselves with knives, to do penance, and to inflict, or cause to be inflicted, upon themselves all manner of bodily suffering; while those still more enlightened, and who had previously occupied respectable and responsible positions in society, have been led, by perverted moral organs, into the wildest fanaticisms and to perform actions that could not be looked upon by enlightened beings otherwise than with the greatest disgust, and which no other influence than a perverted sense of moral duty could have induced them to perform. We have shown, in the preceding pages, that health was affected to a very great degree by our physical habits, and as we now see that the moral organs are capable of controlling the other organs to that extent that life itself is often yielded rather than violate supposed moral obligation,

it becomes evident that if we can bring our moral organs to bear on all our actions in life, we shall be far more successful in overcoming pernicious habits, or in restraining ourselves from hurtful indulgences, than we could otherwise be. Therefore, if we would have health, we must have moral organs that act just as their Creator intended they should. Without this, we can no more have perfect health than we can if our liver or kidneys act in a manner different from that which the Creator intended.

It will probably be claimed that, inasmuch as there is so great a diversity of opinion as to what is right and what is wrong, as manifested by the devotees of the various systems of religion in all ages, any attempt to bring in the moral organs to control and direct our physical habits must necessarily result in producing results equally as disastrous as those that have been produced in the religious world. This, we admit, would be apt to be the case unless the moral organs act normally, so as to exert just that influence over the other organs that the Creator intended they should exert. But, while we admit this, we claim that if they are allowed to exert just that degree and quality of influence over the other organs which the Creator intended, the consequences cannot be other than salutary. It only remains, now, for us to decide as to the normal actions of the moral organs, and then for us to

strive to bring them into that condition where they shall at all times act properly.

There exists a universal agreement among all men that there is a Supreme Being to whom man is indebted for life and all its blessings, and who is worthy of our highest love and adoration, and whom we are in duty bound to respect and obey. This feeling is the natural or instinctive action of the moral organs of every human being, hence the universal agreement to this proposition. This is the first step. But in taking the after steps, men are not agreed. They do not agree as to who the Supreme Being is, nor in regard to what he requires. This is because man, having to learn all he ever knows, has been educated wrongly; and this being the case, who shall decide these matters? Human reason is too short to do this, it can only be done by a revelation from the Being to whom our respect, love, and allegiance are due.

The fact that man has organs of reflection, or is a thinking being who has to learn all that he ever knows, and the additional fact that he is a moral being who feels that he owes allegiance to a Supreme Being, makes it imperative that the Supreme Being should reveal both himself and his will to man; otherwise, man's existence becomes at once a libel on the Being that created him. Such a revelation man has in the Bible. This book has been given him that he may know

just how to develop moral character. Its precepts contain a statement of just the actions our moral organs ought to perform. The constant tenor of its teachings is that we ought to venerate, love, and obey the Creator of all things above all other beings or things, and that we ought to pay the same regard to the rights of others that we do to our own. In addition to this, they lay a ground-work of faith upon which we may build our hope of a future existence.

When we properly educate our moral organs by the teachings of the revelation that has been given for their guidance, we will find that, when exercising their functions properly, they will prevent us from transgressing the laws of our being; for a moral sense of the right or wrong involved in the doing or leaving undone of an action is the very strongest influence that can be brought to bear upon an individual's mind.

Inasmuch, then, as moral principles are so intimately connected and interwoven with the principles on which life and health are based, it behooves all who would prolong their lives and health to a good old age, to become acquainted with every moral principle contained in God's revealed will, and to let those principles guide and direct in the formation of every habit, and the performance of every action, of life. In other words, in all that you do, whether you eat, or whether you drink, or whatever you do, do all

to the glory of God. If you do this, you will certainly escape most of the ills to which flesh is heir; for as it is not to the glory of God for us to be sick, and weak, and suffering, it cannot be to his glory for us to do any of those things which will tend to bring us into such a condition.

We conclude, then, that inasmuch as moral influences, when allowed to have their proper bearing, are capable of exerting so powerful an influence over the physical well-being of our bodies, and inasmuch as true morality is nothing more nor less than pure and undefiled Christianity, therefore, the first and most important step which a person seeking to place himself in the best possible condition of health can, and should, take, is to become a humble, confiding child of God—a Christian, but not a sectarian.

EXTERNAL RELATIONS.

The health of individuals is often seriously affected by their material surroundings. All miasmatic emanations from damp or wet places, all exhalations from cemeteries, all noxious gases rising from decaying animal or vegetable substances, or from animal excrements, are detrimental to health; hence the objects or substances from whence these arise may be sources of disease.

A person who is of a naturally cheerful disposition may be thrown into a state of gloom and

disquietude that will eventually result in sickness, and even death, simply by unpleasant surroundings. In fact, this has often been the case with persons who have been reared in pleasant homes, surrounded by bright flowers and shady trees, with picturesque scenery, where everything the eye beheld served to elevate the mind and inspire the soul. When they came to change localities and settle on some monotonous prairie, or in some gloomy forest home, their minds became depressed, and disease soon followed. On the other hand, individuals living amidst disagreeable surroundings, and who have thus become sick, often recover health by simply changing their surroundings, so that everything shall be more agreeable to the external senses.

Therefore, let all who would be healthy, and who would have their families healthy also, surround themselves with that which is beautiful and pleasant, make everything the eye shall rest upon as agreeable as possible, and carefully avoid locating the family residence near any marsh, frog pond, or pool of stagnant water. Never allow stable or barnyard litter to accumulate where the effluvia emanating therefrom shall be wafted to your door by every breeze. See that no swill barrel, filthy pig-pen, or privy, shall send forth its disgusting and poisonous odors where they will be inhaled by any of your family. Plant

here and there shrubs, trees, and flowers, to relieve the monotony of the scenery and greet the eye with their rich foliage and enlivening colors, begetting in the mind cheering, noble, and elevating thoughts. Provide a comfortable house that shall be warm in winter, and cool as possible in summer, as your residence. Keep the fences in repair and in order, so that whatever the eye beholds shall beget within the mind a feeling of contentment, and you will have done much to keep disease from your household.

CONCLUSION.

In view of the foregoing, we find that good health is not a condition that can exist independent of governing circumstances or laws, but that it is a state of vital activity which is very liable to be interrupted by surrounding circumstances, and which is largely dependent upon the existence of certain conditions that are within the control of human beings, and that these conditions are all met when we supply the body with pure air, light, pure soft water, wholesome food in proper amount and at proper times, temperature of the right degree, clothing in proper amount and properly adjusted, exercise of the right kind and amount, proper rest and sleep, proper mental and social influences and external relations, and are actuated in all we do by the principle of love to God and love to man. When these conditions

are all supplied, health follows as an inevitable consequence.

In the preceding pages, the aim has been to state in a brief, yet concise, manner, the conditions upon which health is based. None of the subjects treated have been by any means exhausted, as the plan of this work would not permit us to devote any more space to them than has been done, though perhaps sufficient has been said to impress the reader with the importance of carefully observing all the laws of hygiene if he would preserve, even in a measure, that priceless and God-given boon—HEALTH. But inasmuch as ninety-nine one-hundredths of civilized human beings are in a condition of disease, and as it is the chief object of this work to meet the wants of this numerous class of suffering individuals, the following pages are devoted to a description of the nature and cause of disease and the so-called “action” of medicines, and also of the use and application of the bath and other hygienic agencies in the treatment of disease, together with a description of its more common forms, and the special modes of treatment which should be adopted in each case.

PART II.

DISEASE AND DRUGS.

NATURE AND CAUSE OF DISEASE, AND SO-CALLED “ACTION” OF DRUGS.

DISEASE is *abnormal vital action*; hence, to fully understand the nature of disease, it is necessary to understand the actions of the various organs when in health. We may divide the vital organs into two classes, one of which digests the food and circulates it to all parts of the system, where it can be used for the purpose of nourishing and building up the body, while the other class gathers up the waste matters, broken-down tissues, and whatever else there may be in the system that is not usable, and casts the same out of the body. It can be seen at a glance that these two classes of organs must not only exist, and perform their work, but that there must be an exact balance in the work performed by them in order to insure health and prolong life. That is, the organs which supply nourishment to the tissues must supply just the requisite amount; otherwise, the body would decrease in size and

strength. The organs that eliminate the impurities from the system must also be faithful in their work, and cast out all the broken-down tissues and other waste matters just as fast as they accumulate; should they fail to do this, there would be a clogging up of the entire system with these matters. When these two classes of actions are just balanced, the individual is in health. If, however, there is an unbalanced condition of these actions, for any cause, the individual is diseased.

The law of self-preservation is the first law that is obeyed by the vital organs; and it is an attempt on the part of the organism to obey this law that constitutes disease. Hence, it is plain to be seen that disease is not a thing, is not an entity, but is vital action. In one sense, it is just as natural to be sick as it is to be well; that is, disease, or abnormal vital action, is just as much the work of nature as is health or normal vital action. Both are put forth for self-protection, for the purpose of preserving the life of the body. In health, the organs all act with reference to keeping the body just as it is. That is, the broken-down tissues are removed as fast as they break down, and others are as promptly built up to take their place, all unusable matter being removed from the system as fast as it enters, without either increasing, diminishing, or in any way

disturbing or unbalancing, the action of any organ.

In disease, the actions of the various organs are all put forth in obedience to the law of self-preservation the same as in health, with the difference, however, that in disease the vital actions are disturbed. They may be increased, diminished, or otherwise unbalanced, according to varying circumstances and causes; yet these actions are all put forth for the purpose of self-protection—not, however, to keep the body as it then is, but for the purpose of restoring it to the condition in which it was before the special cause that occasioned the disturbed action was brought to bear upon the organism. Hence, disease is *remedial effort*.

Whenever any action takes place in any part of the system, a certain amount of vital force is expended, and thus lost to the individual. This is because of the wearing out of some of the tissues of the part in exercise. This being the case, it is evident that all the vitality of the body would soon be expended unless some means was provided by which a constant supply might be furnished to the tissues. Such a supply is furnished by the blood, which is composed of water and organic matters derived from the food.

When the vegetable builds itself up, it does so by taking certain elementary substances of the

mineral kingdom, and transforming them into its own tissues, at the same time also transforming whatever force those elementary substances possess into vegetable life, or vital force. Whenever man or beast eats vegetable food, certain elements of the vegetable are converted into flesh, and the vital force manifested as vegetable life is transformed into animal life. Now, as all the digested food becomes blood before being converted into flesh, and as the flesh loses its vitality by the wearing out of its tissues, it is evident that the life of the flesh is in the blood, and that the flesh may replenish its vitality by renewing its tissues. But before this can be done, the broken-down tissues must be removed, which is principally effected by their combustion, or oxidation, as explained in the tract entitled "Good Health," to which the reader is referred. As there stated, these broken-down tissues are burned or oxidized by the oxygen received from the lungs, the carbonic-acid gas thus formed being immediately absorbed by the red corpuscles of the blood, and by them carried away, thus making room for the rebuilding of the tissues.

The red blood corpuscles are not used as material for building up any part of the body, their sole office being to convey oxygen from the lungs to the capillaries for the purpose of consuming the broken-down tissues and then conveying the resultant carbonic-acid gas to the lungs for expul-

sion. And by this process heat is generated in all parts of the system by the oxidation of the wastes of the body.

As previously stated, it is very important that the worn-out tissues should not be permitted to accumulate, as by so doing they would hinder the rebuilding of the new tissues. To remove these with sufficient dispatch, a great amount of oxygen is required ; so much, that a quantity of blood equal in volume to the whole amount contained in the body is sent to the lungs every three minutes for the purpose of throwing off the carbonic acid, and of receiving fresh supplies of oxygen.

The truthfulness of the foregoing statement may be demonstrated in many ways. If a person with a pulse at seventy or eighty steps quickly up a flight of stairs, or runs for a short distance, or engages for a few moments in any very active exercise, he will find his pulse increased from ten to fifty beats per minute. What is the cause of this increased circulation ? Simply this : the tissues, in acting to perform the labors required of them, become worn ; and as they cannot repair the wastes until this worn material has been removed, it is necessary for the blood to be sent to the lungs much more rapidly than on ordinary occasions.

Thus we see why violent, or even active, exercise will accelerate the circulation. The accu-

mulation of worn-out material not only prevents the repairing of the tissues, but it also prevents them from manifesting any vitality. This we see whenever the supply of air to the lungs is cut off, or whenever the circulation of the blood ceases; for, in either of these conditions, the flesh begins to weaken, and almost instantly loses its strength, and life soon becomes extinct. These facts show the importance of a constantly full and unimpeded circulation of blood in every part of the human system if we would be free from disease; for if for any cause the capillary vessels in any part of the system become clogged, there must of necessity be a stoppage of the circulation in that part, and, consequently, it will be insufficiently nourished, the wastes will be improperly removed, and the part will not be as active and strong as it would have been under other circumstances.

When any part of the system is clogged with unusable substances, or with retained excretions, or even by a distension of the blood-vessels, as in congestion, nature's first law, self-protection, requires that an effort be made on the part of the organism to remove the obstruction. The effort which is thus put forth is disease.

When the effort is slight, and does not differ much from the actions of the system when in health, the individual may not be aware that he is diseased; but if the effort is great, or manifests

itself by any very marked symptoms, requiring any very great expenditure of vitality in their manifestation, then the individual becomes aware that he is sick. It sometimes happens that obstructions to the circulation exist for a long time before any very great effort for their removal is put forth by the system. There may be two reasons for this. 1. The individual may have inherited a feeble constitution; 2. He may have lived under circumstances which caused the gradual yet constant reception into his system of the obstructing cause, which, not being cast out by a slightly increased activity of all the depurating organs, occasioned the accumulation of foreign and effete matters, at the same time overtaxing some one or more organs, and thus causing their capillaries to become relaxed, and distended with impure blood. These organs soon ceased to perform their functions, and the entire system became clogged with the effete matter which should have been thrown off. The organic nervous system (which stands in the same relation to the vital organs that the brain sustains to the organs of voluntary motion) then perceives that something is wrong, that there is something in the system which is not usable; they consequently call upon the entire system to act for the purpose of eradicating these foreign matters from the vital domain.

The circulation may be clogged in various

ways. The surface or extremities may be chilled, and the circulation in those parts thereby become impeded, or it may be checked by pressure, as in the wearing of tight elastics about the limbs, or corsets and belts about the waist, or obstructing substances from without may be introduced into the system. Any effort on the part of the system to remedy the evil, or to remove the obstruction, is in exact accordance with the principle of self-preservation, and is, consequently, a natural action; yet, inasmuch as it differs from the usual actions of the vital organs, it is an abnormal, unusual, or diseased action.

There is another class of causes which occasion disease although they do not materially clog the system with their own substance. This class is by far the most fruitful source of disease of any that can be named. It comprises all the poisons of the mineral, vegetable, and animal kingdoms, and includes both those which are taken into the system from without, and those that are engendered within the body. Many of the poisons taken into the system from without, occasion immediate and prostrating diseases; and, not unfrequently, sudden death follows their reception into the body. Others do not immediately occasion any serious or marked disturbance of the action of the various organs. The manner in which these poisons occasion disease is a matter which all should understand, for if they do not

understand how disease is occasioned, they cannot understand how it should be treated; while a person who fully understands the nature and cause of a disease will be better able to discern the mode of treatment to be adopted to effect a cure.

Of poisons that enter the system from without, perhaps none will better illustrate the subject than the malaria which arises from the decomposing vegetation of swamps, marshes, and other low, wet places. This malarious poison may arise from a chicken-yard, or barn-yard, or pig-pen, or heap of stable litter, or from a cess-pool, a privy-vault, or a swill barrel. It matters not whence it comes, whether from decaying vegetables in the cellar, under the house, or from the mill-pond; from whatever source such emanations arise, they mingle with the atmosphere, and are taken with the inhaled air into the systems of those who live in the vicinity where these poisonous germs are originated and diffused. If very little of the poison is inhaled, or if the person inhaling it has a strong constitution, it will be readily passed out by the organs of depuration without causing any great disturbance of the vital actions; consequently, no apparent disease is occasioned. The same is true of all kinds of poisons if taken in sufficiently minute quantities; but no person can tell how small a dose may occasion serious disease, or even death, for the reason that the con-

dition of the system is constantly changing, and an amount of poison which at one time, and under one set of circumstances, would result in no serious difficulty, may at another time, under different circumstances, produce not only serious disease, but even death.

When a small amount of poison is taken into the system continuously for any considerable length of time, some of the organs of depuration become first weary, then weak, and soon they fail to do their share of the work, and the system becomes clogged, not so much, however, with the poison taken into the system as with the effete matters which the disabled organs should have cast out.

As some of the organs stop to rest, or, through overwork, fail to do their share of the work of keeping the body free from effete matters, other organs are called into increased activity to remove the causes of obstruction that have accumulated within the system, and this overwork, this increased activity, this remedial effort, is disease.

HOW TO TREAT DISEASE.

Shall we give medicines to the sick? All medicines are poisons, and all of them act in precisely the same manner as do the causes of disease; at least, so say the professors of *materia medica* in all the medical colleges in the land;

and they claim to cure one disease by producing another. It is evident that, in attempting to cure a disease, we should always seek to remove the cause. We have found that disease is always occasioned either by poisons engendered within the system—retained excretions—or by poisons taken into it from without, which may be of either mineral, vegetable, or animal origin. Now, in case an individual has retained excretions, or has taken into his body some poison, what shall be done for him? Shall we give him some other poison? This we shall certainly do if we give him medicines; for all medicines are poisons, and the doctors say, “The strongest poisons are our best remedies.” I am aware that many of my readers will be surprised when I tell them that the mildest form of medicine, be it simply a cup of tea, or of catnip, or of sage, or any other form of herb drink, or any one of the five thousand drugs and compounds which are given the sick, if it produces what the doctors call a medicinal effect, it is because it contains a certain amount of poison; for the so-called medicinal effect of all medicines and poisons is simply an act on the part of the system to reject the medicine or poison and to cast it out.

Take, for instance, the common tea of China. This herb yields a certain extract called theine. A few pounds of genuine tea will yield quite an amount of this extract, which if taken in large

doses will occasion death. So with the herb known as peppermint. It yields a volatile oil (the oil of peppermint) which will also cause death if taken in large doses. The same is true of all the herbs that are given as medicine. Their poisons may be extracted and taken in sufficiently large doses to occasion death; yet none of these, when taken in small doses, and at long intervals, will occasion any serious difficulty, but on the other hand, if taken in doses of proper size, would actually afford pleasurable sensations. Common tea, if used daily, even of moderate strength, will seriously injure the vital machinery by the constant labor which the various organs are obliged to perform in casting the poisonous ingredient out of the system.

It is true that herb medicines are generally much less injurious in their effects than are the chemical compounds of the mineral poisons, or the viruses, excrements, and various other animal substances that are in general use as remedies by the medical faculty. It is also true that of these vegetable medicines, many roots, barks, leaves, flowers, and herbs, may be named that possess properties so slightly poisonous that they can hardly be classed as poisons; yet if they occasion any medicinal effect, it is simply because the little poison they do contain is recognized and resisted by the system in precisely the same manner that other poisons are. But, in such

cases, the amount of poison is so small that the action induced is very slight; and, consequently, no great injury results from their use unless it becomes habitual. Hence, we say, to those who will use medicine of some kind, Use only the plants and herbs of the field, as by so doing you will suffer little damage, although you may receive no good.

If a person is sick, the cause of his sickness may be retained excretions which have become poisonous by changes which have taken place in them while in the system, or which are simply clogs in the way of the circulation, or it may be some poison that has been taken from without. In either case, the disease which is occasioned is simply an effort on the part of the organism to expel the poison. Now, shall we give another poison? if so, what good will it do? It is simply adding a second unusable substance to those already in the system, and if it is recognized by the vital organism, it will be repelled in a manner essentially similar to that in which was the first. It is true, however, that in repelling the second poison the effort to expel the first may be suspended for a time, and that, if the suspension be continued sufficiently long for an organic change to take place in the organ previously diseased, the first disease may not recur, even when the second poison has been expelled; but such cases

are very rare, and when they do occur, it is almost invariably the case that the diseased action induced by the medicine results in the most serious, and perhaps permanent, injury to the individual.

To make the matter plain, suppose that a person has inhaled miasmatic poisons for a long time. At first, he experiences no ill effects. This is because the depurating organs, being strong and active, can do the work of expelling the poison in addition to their customary work, which was to excrete the ashes or waste matters resulting from the breaking down of the tissues. After a time, this continuous overwork reduces the vitality somewhat, and one, or more, of the long overworked organs becomes impaired, and is no longer able to perform its functions; or it becomes so congested with blood and swollen that action is impossible, their tissues also becoming either soft and flaccid, or hard and indurated.

We will suppose that it is the liver which has thus ceased its action; as the result, the bile element, which is usually cast out by the liver, is retained in the system, as in jaundice and many other diseases. As the bile element is constantly accumulating, the whole system soon becomes filled with it. If the liver fails to act, the blood gradually becomes impure, and, in a short time, instead of pure, healthy blood being sent to the tissues, to impart to them strength and vitality,

the life fluid is contaminated by the putrid bile elements which should have been excreted and removed from the body, and the tissues become clogged, and thus unable to act, so that life soon becomes extinct.

We now see how the inhaling of malarious poisons causes the clogging up of the system. It is not by any act of their own, nor by their own bulk; but the depurating organs (that is, those which separate impurities from the blood), become worn out, and fail to perform their usual work of renovating the wastes of the body, so that the system becomes filled with them. Something of an idea of the amount of waste material that is produced in the system may be obtained by considering the amount of food which is daily required to supply the place of that which has become worn out. As these impurities accumulate in the system, their presence is recognized by the organic nervous system, which is composed of between thirty and forty pairs of brain ganglia or nerve centers, which preside over the functions of organic life just as the brain proper, which is the center of animal life, controls the organs of voluntary motion. The brain ganglia, recognizing that something is wrong, induce action in the vital organs for the purpose of removing the poisonous substances from the blood. At first, there is merely a slightly increased activity of each organ. The circulatory

organs work a little faster in carrying the blood to the organs of depuration; the kidneys, by their increased action, throw out a larger quantity of serum, and with it whatever it may hold in solution; and so with all the depurating organs. Soon there is a general disturbance in the system. The individual feels uncomfortable, is weak, in fact, is sick. The doctor is called, feels his pulse, and finds that it is ninety or one hundred beats per minute. The flesh is hot, the tongue coated, the breath offensive, and he pronounces it a case of fever. He orders, first, a purgative, "to cause the bowels to act," or an emetic, to "act upon the stomach." Then a diuretic "to cause the kidneys to act," then diaphoretics to cause sweating. If these poisons do not "cure" the disease, he will give alteratives, to change its form, or depletents, to lessen the vitality if the fever is too high; or, if the patient is failing in strength, he will give tonics to tone up the system; if he is so weak that he does not "respond" to the tonic, then stimulants are given, and, finally, if the patient is not likely to recover, and is in much pain, narcotics are given to destroy the sensibilities so that he may die easily. All the way through, the doctor watches the symptoms and medicates them; that is, he gives medicines which so change the patient's condition that he no longer manifests the particular symptom. Instead of ascertaining what is the

cause of the symptom, and removing that, he gives a poison which experience has taught him will stop that symptom, and this he gives regardless of future consequences, and without inquiring whether some new complication may not result which will be more injurious to the patient than the first disease, his sole object being to so change the disease that the present symptoms shall be no longer manifested. Every one of the medicines given, is a poison; and although they cure the disease for which they are administered, they do not remove the cause of the disease, but only occasion an action in the system to expel these very medicines, thus detracting the attention of the vital organs from the remedial effort in which they were engaged.

As the medicines enter the system and are absorbed, their presence is recognized by the brain ganglia in the same manner that the nutriment, and the wastes, of the body are recognized. These brain ganglia discover that the medicine cannot be used to replenish any of the tissues of the body, and, consequently, that it can be of no possible use, and should be removed as soon as may be. To accomplish this, they direct the depurating organs to exercise their functions upon this new poison; and as the attention of the brain ganglia is directed to the new poison, they lose sight, as it were, of the first, and, consequently, the actions to get rid of the first poison

are suspended, so that the attending symptoms cease to be manifested; but inasmuch as a new set of actions has been set up, new symptoms make their appearance. Thus we find it to be true that the drug doctors cure one disease by producing another.

The reason why one poison occasions an excessive excretion of urine, and another a powerful operation of the bowels, while a third occasions profuse sweating, and a fourth a copious expectoration, is because the brain ganglia differ in their powers of recognition, just as the nerves of the five senses differ, the one from the other. The mental perceptions are purely functions of the brain, while the vital instincts, or vital perceptions, are purely the functions of the brain ganglia, or nerve centers of the organic nervous system. The brain perceives, or recognizes, things through the five organs of sense. Through the eye, and by means of the optic nerve which is distributed in the eye, the brain is enabled to perceive the color, shape, and position, of things. Through the olfactory nerve, in the nose, it perceives, or recognizes, the various odors of things. Through the gustatory nerve, or nerve of taste, it recognizes the gustatory qualities, or the taste, of things. Through the nerve of hearing, it recognizes various sounds and musical tones. And through the nerves of feeling, it recognizes the texture, structure, size, weight, and various other

physical properties of objects. We see that each of the five senses recognizes peculiar properties of matter. A person cannot hear the color of things, nor taste with the nerve of sight, nor smell with the nerve of hearing, nor feel with the nerve of taste. Each of these organs differs from each of the others, so that the brain recognizes through one what it does not through others.

As before stated, there are between thirty and forty pairs of the brain ganglia in the organic nervous system. They are situated along either side of the spinal column, and it is these brain ganglia that have the power of vital perception, or recognition, usually known as the vital instincts. These various brain ganglia send out nerves to the vital organs, and through those nerves perceive, or recognize, the quality of the blood and certain properties of its ingredients, as it passes through the various organs to which these nerves are distributed. These brain ganglia differ in their vital perceptions, just as various parts of the brain differ in mental perceptions, one part hearing, another part seeing, another feeling, another tasting, and still another smelling. One of the brain ganglia recognizes certain properties, or qualities, of matter, and another, certain other properties of matter. As before stated, it is this difference in the vital perceptions of these brain ganglia that causes the various organs of depuration to excrete different

substances from the blood. The reader will need to study this part of the subject closely, as an understanding of the nature of vital recognition and vital action will enable him to understand fully why and how drugs affect the system.

As before stated, these brain ganglia preside over, and direct, the vital organs in their actions. One set preside over the organs of digestion and circulation; and when any substance is received into the alimentary canal which is usable in the building up of the tissues, this portion of the brain ganglia directs the proper organs to digest, circulate, and make use of it. Others of the brain ganglia preside over the kidneys, and distribute to them their nerves; so that as the blood circulates in them, it comes in contact with these nerves, through which the ganglia perceives certain unusable substances in the blood, and causes the kidneys to separate them from it. These substances are the saline matters which are held in solution in the blood.

Another set of the brain ganglia preside over the liver, and perceive other unusable substances in the blood. They accordingly direct the liver to separate those substances from the blood, which, by so doing, produces the bile or gall.

Another set of ganglia preside over the mucous membrane of the intestines, and direct in the separation of certain other unusable matters; while another set preside over the sweat glands

of the skin, directing in the work of separating still other matters from the blood ; and still another set preside over the lungs, directing in the throwing out of still other unusable matters.

Thus, we have the urine excreted by the kidneys, the bile by the liver, the carbonic-acid gas by the lungs, the perspiration by the sweat glands, and the fecal matter by the mucous membrane of the intestines. All matter does not possess the same sensible properties ; if it did, we would know of but one kind of matter. As it is, we can, through the various senses, recognize various properties of matter, and are thus enabled to distinguish one object from another. Many kinds of matter possess properties which our mental faculties are not able to perceive. Some forms of matter that appear, to our external senses, just like certain other kinds of matter, are found, when taken into the system, to occasion entirely different effects. Again, certain articles when taken into the system are found to seriously affect one organ, or set of organs, while all the other organs remain unaffected. If, however, some other articles are taken into the system, some other organs are affected, while those which were affected by the first class of articles remain unaffected by the last.

The person who can understand the reason of this will be able to understand the whole subject of the nature and cause of disease, and

why and how certain effects are occasioned by the taking of drugs. He will also be able to answer the question whether we shall give a sick man medicines; whether we shall give a man poison because he already has poison in his system. A man eats an apple, a piece of bread, or some other article of food, and that is the last he feels, thinks, or knows, about it. It is digested, formed into blood, and circulated through his body, and is eventually converted into flesh and bone, nerve and sinew; yet he remains wholly unconseious of the changes that take place in it, or of the means by which these changes are accomplished, that is, so far as his mental perceptions at the time are concerned. Now let the same individual take into his stomach a dose of tartar emetic, a little tobacco, or a dose of lobelia; how differently he is affected! Instead of being strengthened and nourished, he feels very sick, and presently vomits, continuing so to do until the stomach is entirely emptied of its contents. Give him a dose of epsom salts, croton oil, aloes, rhubarb, or castor oil; what is the effect? These substances are not digested and used as nourishment, neither do they induce vomiting; but they occasion a very copious and offensive discharge from the bowels. Give him spirits of nitre, saltpeter, squill, digitalis, or turpentine, and copious urination will be the result. Give him other medicines, and profuse sweating will result. Give

him still others, and he will expectorate freely. If each of the medicines named above is given in proper doses, it will occasion the effect named, and no other.

Why do not apples cause vomiting, and bread, purging? Why do not boiled or baked potatoes cause sweating, and rice, frequent and copious urination? Why does not squill cause vomiting, and tartar emetic, purging? Why does not rhubarb or aloes cause sweating? Why do these various medicines occasion certain special effects in particular organs? Many doctors of medicine inform us that it is because certain medicines have a special affinity for certain organs; and that "the medicine goes through the system seeking out from choice those organs and tissues on which it can make its impression." Thus they ascribe to drugs a species of intelligence. Right here is where almost the entire medical faculty stumble. Instead of medicines having special affinities for certain organs and tissues of the body, the vital organism has a special dislike for drugs, and makes a special effort to expel them as rapidly as possible. It endeavors, through the kidneys, to get rid of all those medicines that are known as diuretics; through the sweat glands to get rid of the diaphoretics; through the intestines to get rid of the purgatives and cathartics; through the lungs to get rid of the expectorants, and through the stomach to get rid of the emetics. Could the

doctors understand this, they would see that drugs are dead, inert things, and that the action is all on the part of the living organism. And yet the whole subject may be made so plain that a child of twelve years can understand it.

When food is taken into the stomach, it comes in contact with the nerves of organic life which are distributed to the mucous membrane of the stomach, as also to all the vital organs. As the food comes in contact with these nerves, the brain ganglia that preside over the functions of the stomach perceive through them, just as the brain perceives through the nerves of feeling, that the food is a substance which has certain properties that adapt it to the use of the system in building up and maintaining the tissues. Recognizing this, the brain ganglia direct, or cause, the stomach to digest it, just as the brain wills the hand to pick up a book or do other work. After the food is digested, the proper organs are directed by the nerve center having them in charge to absorb and circulate it to all parts of the system. While this digested food, which has now become blood, is passing through the capillaries, the brain ganglia which have charge over the building up of the tissues direct them to make use of a portion of it to repair or rebuild themselves, as the case may require.

When the tartar emetic is taken into the stomach, the brain ganglia which have charge over

that organ perceive or recognize through their nerves that a substance has entered the stomach which is not adapted to the wants of the system. They perceive that the properties of the tartar emetic are so unlike the character of the matter of which the body is composed that it cannot be used. Now as it is the special function of these brain ganglia to accept whatever is usable that enters the stomach, and to reject whatever is unusable, they cause the stomach and abdominal muscles to contract spasmodically, thus forcing the contents of the stomach up through the œsophagus, by this means emptying the stomach of its contents. This expulsory action is termed vomiting.

Now what part did the tartar emetic act in this whole matter? None whatever. It was a dead, inert thing, incapable of the slightest action. Living hands placed it in the mouth, living organs of deglutition swallowed it, or forced it down into the stomach. There it was recognized as an unusable thing, and a spasmodic contraction of living muscles forced it out of the system. In this case, the vomiting was an act of self-protection. The vital organism acted in an unusual manner to get rid of the poison (the tartar emetic), and the unusual, disturbed action, the remedial effort, the vomiting, was disease. It is in the same manner that all that class of medicines known as emetics are recognized and acted upon

by the system. They are not allowed to enter the circulation, but are ejected before being absorbed. Suppose a child has eaten some indigestible substance, such as old cheese or green apples; its stomach tries to digest it, and finding it to be difficult of digestion, we will suppose, from insufficient mastication, it contracts upon it with greater force, in order to crush or pulverize it so that the gastric juice can thoroughly permeate and so digest it. This contraction causes pain or cramp, and the child becomes very sick; yet the disease is simply an effort on the part of the stomach to remedy the evils resulting from swallowing food half masticated. If the stomach succeeds in grinding the food, then the contractions cease, the disease is ended, and the child is well. If, however, it does not succeed, the brain ganglia which have charge of the stomach notify other ganglia which have charge over the entire muscular system, and they are called into action, and the child has convulsions. Now, what are these convulsions? They are simply the contractions of various muscles which act in obedience to the nerve centers which preside over them, and which have perceived that something which is not usable in its present condition is in the system, and these various muscles are directed to contract so as to help remedy the evil.

It must be remembered that the brain ganglia, or nerve centers, are not intelligent. They sim-

ply discover that something is wrong, and, making this discovery, set the organs over which they respectively preside, at work to remedy the difficulty. It must also be remembered that the organs over which these nerve centers preside, can only act, each in its own manner, and that while they may not accomplish anything whatever toward remedying the existing evil, or in removing the obstruction, the action is nevertheless induced for that purpose. Many a child has convulsions which are caused by the presence of indigestible food in its stomach, and although the effort is unsuccessful, yet it was put forth solely as a remedial effort. The nerve centers, finding that the contractions of the muscular coats of the stomach were insufficient to crush the unchewed food, call the entire muscular system into action; thinking, so to speak, that by one powerful effort it may accomplish its object. We will suppose that a doctor has been called to see a case of convulsions caused in the manner described. He gives an emetic, which produces vomiting, as before described, at the same time causing a most deathly feeling in the patient, which is only relieved when the contents of the stomach have been expelled. Thus he cures one disease by producing another. In this case, however, the cause of the first disease was removed, and had there been no other way to remove it, the giving of the emetic would have been proper, although the new disease was

the cause of much distress. But there is a better way than the giving of poisons. Give the child a few glasses of warm water, not hot, then tickle its throat, and the stomach will void its contents with very little distress or discomfort to the child.

We will now take some one of that class of medicines that are said to act directly on the kidneys, and are known as diuretics. The properties of this class of poisons are not recognized by the nerve centers which preside over the stomach, hence, vomiting does not occur. The poisons are dissolved and mingled with the fluids of the stomach, and are absorbed and passed directly into the circulation, being then carried to all parts of the system in the blood without doing any harm or causing any disturbance until they reach the kidneys. Immediately upon so doing, they come in contact with the nerves which are freely distributed there, and through these nerves, the brain ganglia having charge over the work of the kidneys, which have the power of recognizing this class of poisons, perceive that something is mingled with the blood which is not usable in the system, and so they excite the kidneys to increased activity in excreting and separating this poison from the blood. Why did not these diuretics occasion vomiting? Simply because they were not recognizable by the nerve centers which preside over the stomach.

Let us now examine that class of medicines

known as purgatives. Why is it that these do not occasion vomiting, nor increased action of the kidneys, nor sweating? It is because these poisons have no properties that are recognizable by the nerve centers which preside over the stomach, kidneys, and sweat glands. But they do possess properties that are recognized by the nerve centers which preside over the mucous membrane of the intestines, and the minute structures of this membrane are set at work to throw these poisons out of the system, which they do by separating them from the blood, together with some of the serum, all of which is thrown into the cavity of the intestine. As these substances accumulate, their weight or presence induces a peristaltic movement of the bowels which casts them, and whatever fecal matter may be present, out of the body.

It is in this manner that drugs, medicines, and poisons of every kind occasion unusual vital action in the various organs of the body; and this action is disease. The professors of *materia medica* in the various medical colleges are right when they say that "medicines when in the human system act as do the causes of disease," and that "medicines cure one disease by producing another." In order that the reader may fully understand this matter, we will recapitulate a few of the propositions already laid down.

1. In all the relations between living and dead matter, the living only is active.

2. There are two classes of perceptive organs in the body. 1. The brain, to which belong the functions of mental perceptivity; 2. The brain ganglia or nerve centers of the organic nervous system, to which belong the functions of vital perceptivity.

3. The brain takes cognizance of things external to the body whether they are in contact with the body or not; while the brain ganglia take cognizance of those things only which are within the system, and are in contact with the nerves of organic life. The brain induces action in the organs of voluntary motion, and causes them to act in accordance with its recognition of external objects no matter whether its recognition is correct or not, thus leading a man to treat his mortal enemy with the greatest kindness if he comes to him in the disguise of a friend, but causing him to quickly change his conduct toward him when his true character becomes known. Thus we see that all the voluntary motions of our bodies exactly correspond to our mental recognitions. The brain does not recognize the properties or conditions of substances or organs within the body, and has no control over the vital organs, as they act involuntarily.

4. The brain ganglia to which belong the

power and function of vital perceptivity, or vital recognition, differ in their perceptive powers so that while one set perceive one class of substances, another set perceive another class. These ganglia induce actions in the various organs over which they preside; and those actions always correspond to, or are in accordance with, the vital perceptions, so that if a substance within the system is recognized as being usable, there is an effort made to use it; or if it is recognized as not usable, there is an effort made to expel it.

5. The nerve centers, or brain ganglia, have every organ and tissue of the body under their control, so that even the organs of voluntary motion at times act without the control of the will, being directed by the nerve centers instead of the brain.

6. Whenever a nerve center recognizes anything in the system that is not usable, the organ, or organs, over which that special nerve center presides, is set at work for the purpose of expelling the poison.

Whether the efforts of the organ thus acting to expel the poison are successful or not depends wholly upon the nature of the work usually performed by the organ. If the organ thus acting is a depurating organ, it will remove the morbid matter or poison from the system, and the effort will be successful; but if some other organ is called into action, the effort will be unsuccessful.

ful. What has thus far been presented, is without doubt clear to the reader; but right here we come to a point which it is hard to make the doctors understand, and which may appear hard for the common people to understand. The query is often raised, If disease is remedial effort, why do people die of disease? why are not these remedial efforts successful? To this it may be replied, While it is true that the nerve centers possess the property of vital perception, they do not possess intelligence. They cannot reason from cause to effect; they can only distinguish between those substances in the system that are usable, and those that are not usable. As already shown, whenever a nerve center discovers that there is something in the system that is not usable, it induces an action in the organ over which it presides, to remove that substance from the body. If the nerve center that presides over the stomach discovers an obnoxious substance in that organ, vomiting is induced to get rid of it, and the effort is successful. If the nerve center that presides over the liver makes the discovery that some obnoxious or unusable substance is in the system, the liver is influenced to increase its action, and as a consequence, more than the usual amount of bile is excreted. If the nerve centers that control the action of the kidneys make the discovery, the kidneys will work faster, and more urine will be excreted. The same

principle applies, also, to the other depurating organs, each of which performs its proper work when called into action by the presence in the system of those substances which it is its peculiar function to remove. If the nerve centers which preside over the mucous membranes of the intestines make the discovery, the excreting cells of this membrane will be set at work, and there will be an accumulation of fecal matter in the intestine.

If it is the nerve center that presides over the mucous membrane of the air tubes and cells, there will be a greater amount of mucus, or phlegm, thrown out into the passages. In each of these cases, the effort is more or less successful, because the organs through which the effort is made, are organs whose special function it is to eliminate impurities from the system. If, however, the nerve centers which preside over the circulatory organs become acquainted with the fact that there is unusable material in the system, they induce increased activity in the circulatory organs and the blood circulates faster, as may be readily seen by the changed condition of the pulse; but no impurities are thrown out; for this is not the function of the circulatory organs. If the nerve centers that preside over the salivary glands are the ones that recognize the poison, or if they, through the nerves that connect them with other nerve centers, learn from those centers

that such unusable substances are in the system, there will be an action induced in the salivary glands to expel the poisons; but the effort would be unsuccessful; for the work of depuration is no part of the functions of the salivary glands; they can only secrete saliva. The muscles can only contract; hence, if the nerve center that presides over the muscles becomes acquainted with the fact of the presence of poisons, or unusable substances, in the system, they, acting in accordance with the law of self-preservation, induce involuntary contraction of the muscular fibers, and cramp or convulsion follows. In this case the cramp or convulsion is not successful in purifying the system; for the muscles are not organs through which depuration can take place; yet the effort that is made through them is remedial effort. Hence, it is claimed that all disease is remedial effort whether it is successful or not.

There are poisons which have many properties, some of which are recognized by one set of nerve centers, and some by others; so that one poison will often induce action in several organs. This is only because several organs are set about the work of eliminating that poison. Another fact worthy of consideration is that all of the brain ganglia are connected, the one with another, by an intricate net-work of nerves which also connects them with the brain. Whenever any one of these ganglia perceives that there is something

in the system which is not usable, and which it cannot remove, it has then the power to notify another one of the ganglia, and procure its assistance, which is rendered by setting the organ over which it presides at work.

Perhaps the disease known as gout, or rheumatism, will illustrate this subject better than any other.

Gout is a disease of the joints of the toes. Mineral matters, either acid or alkaline in their nature, exist in the blood; and as these substances pass through the structure of the synovial membrane of the joints of the toes, the nerve centers which preside over those organs perceive them, and they set the dense tissues of the organs at work to expel these substances. But as these are not depurating organs, they cannot successfully accomplish the task; they can only create heat by their friction, and, as a result, inflammation ensues. The nerve centers which made the first attempt, finding themselves unsuccessful in their efforts, now communicate with other nerve centers which have charge over organs similar in character, that is, other joints, and the individual has rheumatism in the knee, hip, back, or shoulder. Now, if we should attempt to cure the rheumatism, as many do, by giving an alkaline or an acid poison, we would be very likely to aggravate the disease. As we add to the poison, the nerve centers that have charge over the mem-

branes which line the cavities of the body (these membranes being similar in structure and function to the synovial membranes of the joints), recognize the existence of these poisons, and the membranes over which they preside are set at work to throw it out. It may be the peritoneal membrane of the abdomen, or the pleura of the thorax, or the pericardium which surrounds the heart, or the dura-mater which envelopes the brain.

The only work that it is possible for any of these last-named membranes to perform, is to secrete a watery fluid that shall keep the various organs which they surround moist and well lubricated, so that there shall be no friction of the parts. Now, when these membranes are set at work with an increased activity, the only thing that they can do is to secrete an extra amount of this fluid, and pour it out into the cavities which they inclose. This is dropsy. If the peritoneum is the active or diseased membrane, the water collects in the cavity of the abdomen; if the pleura, then the water collects in the chest or thorax; but if the dura-mater is the diseased membrane, water collects about the brain. The first is dropsy of the abdomen; the second, dropsy of the chest; the third, dropsy of the brain; while if the water collects in the pericardium, or heart-case, we have dropsy of the heart.

It is often the lining membrane of the capilla-

ries that is set at work, in which case the water collects among the loose tissues of the body, producing general dropsy.

Why was this water thrown out? Simply because the only function which these membranes can perform is to secrete this peculiar kind of fluid; and as they are under the direction of the nerve centers, when they are incited to greater activity, they do the only thing they can do. All this is an effort to remove something from the system; yet as these membranes are not depurating organs, the effort is unsuccessful. Sometimes, in cases of rheumatism, when drug medicines are given, the action induced in the membranes mentioned, whose structure and function are similar to those of the inflamed synovial membrane in the rheumatic joint, is so great, that instead of water being thrown out, the action is entirely stopped, inflammation of the membrane follows, death speedily results, and the patient is said to have died of rheumatism of the heart, stomach, etc.

We might also notice the disease known as mumps. This is a disease of the salivary glands. It consists of an inflamed condition of these organs induced by the nerve centers that preside over them, they having discovered impurities of some kind in the blood during its circulation through these glands. Now, if the patient suffering with mumps takes cold, the diseased action is greatly increased, and the nerve centers

that preside over organs similar in structure and function to the salivary glands are invited to assist in the work, which they do by setting the respective organs over which they preside, at work. These are the testes in the male, and the breasts, or mammary glands, in the female.

There are other diseases in which all the nerve centers are called on to assist, as in fever, in which disease there is a general disturbance of all the vital functions. Now, all disease is caused by some poison or unusable substance that has found its way into the system from without, or that has been engendered within, and all medicines that are capable of occasioning a medicinal effect are poisons, and always occasion a diseased action in some part of the body, the disease being the actions that are set up to rid the system of the poison. In reply, then, to the question, Shall we give medicine to a sick man? we say, most emphatically, No.

Medical men have, in all ages, observed that certain medicines occasioned special results in certain organs, while other medicines occasioned different results in the same or other organs; hence, they have attempted to classify medicines, calling one an emetic, another a purgative, and another a diuretic, etc.; but this classification has been entirely based upon an erroneous theory of the nature and cause of disease. Many physicians have supposed that the effect occasioned

in the various organs by these medicines was occasioned by the action of the medicine upon the organ, and by the medicine acting upon it in some manner when it was diseased, in which it would not, or could not, have done when in health. They supposed that the medicine acted in some manner for the purpose of curing the sick organ. Others have supposed that the action was all performed by the diseased organ, and that the organ used the medicine to cure itself with. Others, still, have claimed that all medicines antidoted poisons in the system by combining chemically with them, and that they cured disease by so doing.

All of these classes of physicians have expected that in the good time coming, when medical science should have been perfected, every disease would have one or more unfailing remedies, and that the medical practitioner would know just what to give his patient in every disease from which he might suffer. If the theories of the action of medicine just mentioned, were either of them true, then we might expect just such a time as has been looked for by some medical men of past times.

We have already shown that all the phenomena that are manifested as the result of taking medicines are simply the action of some, or all the vital organs in their efforts to expel the medicine from the system; and it is easy to under-

stand that these vital efforts cannot be made without an expenditure of vital force just in proportion to the effort made. As the vital force is expended in the performance of these actions, there is a consequent weakening of the system, a lowering of the vitality of the patient; so that instead of the patient's vitality being augmented, it is greatly diminished, by the use of medicine.

The question may be asked right here if medicines never cure disease. To this query we answer, Medicines stop the disease, and if that can be called curing, then medicines cure disease.

But here is a point to be considered. Disease, we have shown to be vital action; therefore, whatever stops the disease, stops vital action. How do medicines stop vital action? They are the cause of the expenditure of vital force in an attempt to cast the medicine out of the system. When a person has fever, for instance, the doctor gives medicine to cure, or stop, the fever. The vitality that was previously used in the fever action in an endeavor to expel bilious matters, and other retained excretions, is now used in an endeavor to expel the medicine. The fever stops, or is cured, because there is not vitality sufficient to expel both poisons at once. We should never seek to cure a disease by any means that will use up any considerable amount of the patient's vitality; for if we do, we shall be killing the patient while curing the disease.

We have already seen that disease is remedial effort; therefore, whoever stops a disease, stops remedial effort. We should never stop remedial effort, we should only control and assist it. We cannot accomplish this by giving medicines, we can only cause a new remedial effort, an effort to expel the medicine; and this new effort is always made without any reference whatever to the previous efforts that were being made to expel other poisons. It will not be contended for a moment that the lives of men have not, in any instance, been saved by taking medicines; for it is quite possible that this may have been the case. But when we take a look at the graveyards, and read upon the tombstones the ages of those who lie buried there, we find that nearly all were cut down by the cruel hand of death before they attained to old age. Almost the entire race of men in past generations has died of disease, yet they took medicines in their last sickness. Why did not the medicine save them? A physician may have ten patients. He gives them all medicine—five get well, and five die. What right has he to say that his medicines cured the five that recovered? How does he know but they would have recovered sooner if they had not taken his poisons? How does he know but that the five who died would have recovered if they had not expended their vitality in expelling the poisons he gave them. Drugs

and medicines probably send more persons to untimely graves than do all other causes combined. One reason for believing this is this : Disease is vital action put forth to expel some unusable substance, or poison, from the system ; and, from the nature of things, it is evident that when the foreign substance is expelled, the disease will stop of itself ; for the cause being removed, the effect must cease. Therefore, diseases are self-limited if let alone ; but if other poisons are introduced, the vital organs wear themselves out in their efforts to keep the body free. If we wish to "live long in the land," we must eschew all drugs and medicines. That there are others who hold to these views, the reader will see by the following extracts taken from the sayings and writings of noted medical men as quoted by R. T. Trall, M. D., President of the New York Hygeio-Therapeutic Medical College, in a lecture before his medical class :—

Professor Alex. H. Stevens, M. D., of the New York College of Physicians and Surgeons, in a recent lecture to the medical class said : "The older physicians grow, the more skeptical they become of the virtues of medicine, and the more they are disposed to trust to the powers of nature." Again : "Notwithstanding all of our boasted improvements, patients suffer as much as they did forty years ago."

The venerable Professor Jos. M. Smith, M. D.,

of the same school, testifies: "All medicines which enter the circulation, *poison the blood* in the same manner as do the poisons that produce disease." Again: "Drugs do not cure disease; disease is always cured by the *vis medicatrix nature*."*

Says Professor C. A. Gilman, M. D., of the same school: "Many of the chronic diseases of adults are caused by the *maltreatment* of infantile diseases." Again: "Blisters nearly always *produce death* when applied to children." Again: "I give mercury to children when I wish to *depress* the powers of life." And again: "The application of opium to the true skin of an infant is very likely to *produce death*." And yet again: "a single drop of laudanum will often *destroy the life* of an infant." And once more: "Four grains of calomel will often *kill an adult*." And, finally: "A mild mercurial course, and mildly *cutting a man's throat*, are synonymous terms."

Says Professor Alonzo Clark, M. D., of the same school: "From thirty to sixty grains of calomel have been given very young children for croup." Again: "Apoplectic patients, who are *not bled*, have double the chance to recover that those have who are bled." And again: "Physicians have learned that *more harm than good* has been done by the use of drugs in the treat-

* The restoring power of nature.

ment of measles, scarlatina, and other self-limited diseases." And yet again: "My experience is, that croup *can't well be cured*; at least, the success of treatment is very doubtful. A different mode of treatment is introduced yearly, to be succeeded by another the next year." Once more: "Ten thousand times ten thousand methods have been tried, *in vain*, to cure diabetes." Still another: "In their zeal to do good, physicians have done much harm. They have *hurried many to the grave* who would have recovered if left to nature." And, finally: "All of our curative agents are poisons; and, as a consequence, *every dose diminishes the patient's vitality*."

Says Professor W. Parker, M. D., of the same school: "Of all sciences, medicine is the most uncertain."

Says Professor B. F. Baker, M. D., of the same school: "The drugs which are administered for the cure of scarlet fever and measles, *kill far more than the diseases do*. I have recently given *no medicine* in their treatment, and have had excellent success."

Says Professor J. W. Carson, M. D., of the same school: "It is easy to destroy the life of an infant. This you will find when you enter practice. You will find that a slight scratch of the pen, which dictates a little too much of a remedy, *will snuff out the infant's life*; and when you next visit your patient, you will find that the

child which you left cheerful a few hours previous is *stiff and cold*. Beware, then, how you use your remedies!" Again: "We do not know whether our patients recover because we give medicine, or because nature cures them. Perhaps *bread-pills* would cure as many as medicine."

Says Professor E. S. Carr, M. D., of the New York University Medical School: "All drugs are more or less adulterated; and as not more than one physician in a hundred has sufficient knowledge in chemistry to detect impurities, the physician seldom knows just how much of a remedy he is prescribing." Again: "Mercury, when administered in any form, is taken into the circulation and carried to every tissue of the body. The effects of mercury are not for a day, but *for all time*. It often lodges in the bones, occasionally causing pain *years after it is administered*. I have often detected metallic mercury in the bones of patients who had been treated with this *subtile poisonous agent*."

Says Professor S. St. John, M. D., of the same school: "All medicines are *poisonous*."

Says Professor A. Dean, LL. D., of the same school: "Mercury, when introduced into the system, *always acts as a poison*."

Says Professor Martin Paine, M. D., of the same school: "Our remedial agents are themselves *morbific*." Again: "Our medicines act upon

the system in the same manner as do the *remote causes of disease*." And again: "Drug medicines do but cure one disease by producing another."

Says Professor S. D. Gross, M. D., late of the New York University Medical School, now of the Louisville (Ky.) Medical College: "Of the essence of disease very little is known; indeed, nothing at all."

These testimonies were taken from the lips of the professors to whom they are attributed, as they lectured before their classes in the most noted medical colleges in the United States.

To the foregoing statements, we add the following from some of the standard authors of the allopathic school of medicine, as quoted by Dr. Trall:—

"I have *no faith* whatever in medicine."—DR. BAILIE, of London.

"The medical practice of our day is, at the best, a most *uncertain* and unsatisfactory system; it has *neither philosophy nor common sense* to commend it to confidence."—PROFESSOR EVANS, Fellow of the Royal College, London.

"Gentlemen, ninety-nine out of every hundred medical facts are *medical lies*; and medical doctrines are, for the most part, *stark, staring nonsense*."—PROFESSOR GREGORY, of Edinburgh, Scotland.

"I am incessantly led to make an apology for

the instability of the theories and practice of physic. Those physicians generally become the most eminent who have most thoroughly emancipated themselves from the tyranny of the schools of medicine. Dissections daily convince us of our *ignorance of disease*, and cause us to blush at our prescriptions. What *mischiefs* have we not done under the belief of *false facts* and *false theories* ! We have assisted in *multiplying diseases* ; we have done more ; we have *increased their fatality*.”—BENJAMIN RUSH, M. D., formerly Professor in the first Medical College in Philadelphia.

“It cannot be denied that the present system of medicine is a *burning shame* to its professors, if indeed a series of vague and uncertain incongruities deserves to be called by that name. How rarely do our medicines do good ! How often do they make our patients *really worse* ! I fearlessly assert that in most cases the sufferer would be *safer without a physician* than with one. I have seen enough of the *mal-practice* of my professional brethren to warrant the strong language I employ.”—DR. RAMAGE, Fellow of the Royal College, London.

“Assuredly, the uncertain and most unsatisfactory art that we call medical science, is *no science at all*, but a jumble of inconsistent opinions ; of conclusions hastily, and often incorrectly, drawn ;

of facts misunderstood or perverted; of comparisons without analogy; of hypotheses without reason, and theories not only useless, but *dangerous*.”—*Dublin Medical Journal*.

“Some patients get well with the aid of medicine; more without it; and still more *in spite of it*.”—SIR JOHN FORBES, M. D., F. R. S., Physician to Queen Victoria.

“Thousands are often *slaughtered* in the quiet sick-room. Governments should at once either banish medical men, and proscribe their *blundering art*, or they should adopt some better means to protect the lives of the people than at present prevail, when they look far less after the practice of this *dangerous profession*, and the *murders* committed in it, than at the lowest trades.”—DR. FRANK, an eminent European Author and Practitioner.

Let us no longer wonder at the lamentable want of success which marks our practice, when there is scarcely a sound physiological principle among us. I hesitate not to declare, no matter how sorely I shall wound our vanity, that so *gross is our ignorance* of the real nature of the physiological disorder called disease, that it would, perhaps, be better to do nothing, and resign the complaint into the hands of nature, than to act as we are frequently compelled to do, without knowing the why and the wherefore of our conduct,

at the obvious risk of *hastening the end of our patient*.”—M. MAGENDIE, the eminent French Physiologist and Pathologist.

“I may observe that, of the whole number of fatal cases in infancy, a great proportion occur from the inappropriate or undue application of *exhausting remedies*.”—DR. MARSHALL HALL, the distinguished English Physiologist.

“Our actual information or knowledge of disease does not increase in proportion to our experimental practice. Every dose of medicine given is a *blind experiment on the vitality* of the patient.”—DR. BOSTWICK, author of the “History of Medicine.”

“I wish not to detract from the exalted profession to which I have the honor to belong, and which includes many of my warmest and most valued friends; yet it can not answer to my conscience to withhold the acknowledgement of my firm belief, that the medical profession (with its prevailing mode of practice) is productive of *vastly more evil than good*; and were it absolutely abolished, mankind would be *infinitely the gainer*.”—FRANCIS COGGSWELL, M. D., of Boston.

“The science of medicine is a *barbarous jargon*, and the effects of our medicines on the human system in the highest degree *uncertain*, except, indeed, that they have *destroyed more lives* than war, pestilence, and famine combined.”—JOHN MASON GOOD, M. D., F. R. S., author of

“Book of Nature,” “A System of Nosology,” “Study of Medicine,” etc.

“I declare, as my conscientious conviction, founded on long experience and reflection, that if there was not a single *physician, surgeon, man-midwife, chemist, apothecary, druggist*, nor *drug* on the face of the earth, there would be *less sickness and less mortality* than now prevail.”
—JAMES JOHNSON, M. D., F. R. S., editor of the *Medico-Chirurgical Review*.

The following declaration was deliberately adopted and recorded by the National Medical Convention held in St. Louis, Mo., a few years since :—

“It is wholly incontestible that there exists a wide-spread dissatisfaction with what is called the regular or old allopathic system of medical practice. Multitudes of people in this country and in Europe express an utter want of confidence in physicians and their physie. The cause is evident: *erroneous theory*, and, springing from it, *injurious*, often—*very* often—FATAL PRACTICE! Nothing will now subserve the absolute requisitions of an intelligent community but a medical doctrine grounded upon *right reason*, in harmony with and vouched by the *unerring laws of nature* and of the vital organism, and authenticated and confirmed by successful results.”

The reader will see by the foregoing quotations that the practitioners of the drug system of

medication condemn the use of drugs and medicines in full as severe terms as can well be done. Let us now see what some of these same men say concerning the healing powers of nature, and the use of hygienic agents in the treatment of disease.

Says Prof. Parker: "As we place more confidence in nature, and less in preparations of the apothecary, *mortality diminishes.*" Again: "Hygiene is of *far more value* in the treatment of disease than drugs!" And again: "I wish the *materia medica* was in Guinea, and that you would study *materia alimentaria.*" And yet again: "You are taught learnedly about *materia medica*, and but little about diet." Once more: "We will have *less mortality* when people eat to live." And, finally: "I have cured granulations of the eyes, in chronic conjunctivitis, by hygienic treatment, after all kinds of drug applications had failed."

Says Professor Carson: "Water is the *best diaphoretic* we have." Again: "My preceptor used to give colored water to his patients; and it was noticed that those who took the water *recovered more rapidly* than those of another physician who bled his patients."

Says Professor Barker: "The more *simple* the treatment in infantile diseases, the *better the result.*"

Says Professor Peaslee: "Water constitutes

about eight-tenths of the weight of the human body, and is its *most* indispensable constituent." Again: "Water is the only necessary—the only natural—drink."

Says Professor Gilman: "Every season has its fashionable remedy for consumption; but hygienic treatment is of *far more value* than all drugs combined." Again: "Cold affusion is the *best antidote* for narcotic poisoning. If the medical profession were to learn and appreciate this fact [why don't they learn it?], the number of deaths from narcotism would be diminished one-half." And again he says: "The continued application of cold water has more power to *prevent inflammation* than any other remedy." And yet again: "The application of water to the external surface of the abdomen is of *great importance and value* in the treatment of dysentery. I have also *cured* adults by this means alone." Once more: "Water is equal in efficacy, as a diuretic, to *all other* diuretics combined. Water is *the* thing that produces diuresis; all other means are subordinate." And, finally: "Water is the *best febrifuge* we have."

Says Professor Smith: "The vapor of warm water is the *most efficacious expectorant* we have." Again: "Abstinence from food is one of the *most powerful antiphlogistic* means."

The following extracts are from a lecture delivered in course before an Association of Physicians

in Brooklyn, N. Y., by Prof. Samuel G. Armor, M. D., of the Long Island College Hospital :—

“The study of therapeutics, as we shall see, is beset with many difficulties, none of which are more prominent than our want of knowledge of the natural history of disease. The bearing of this upon our therapeutic reasonings must be at once apparent. Usually we see but one side of the question, and find it difficult, therefore, to form a proper estimate of what belongs to *Nature* and what to *Art*. Drugs are administered, patients recover, and we suppose we have cured them; whereas our remedies may have had little or nothing to do with the recovery; very likely it took place in spite of our drugs.

“This mistake of sequence for a consequence appears to be one of the most natural to which the human mind is liable. We encounter it in every department of physical science, and in none, perhaps, more than in estimating the curative value of drugs. Many reasons might be assigned why this is so, one or two of which I may mention. In the first place, we have no distinct instruction in the natural history of disease—I mean, uninfluenced by drugs. Nor have we any field for observation. Call to mind, if you can, a single instance in which you watched the course, progress, and termination of disease, uninfluenced by remedies of some kind.

“And we have not only no field for observation,

but we find it difficult to create one. The natural instinct to seek relief from suffering and danger prompts all ranks and grades of people to put themselves under some sort of treatment. Moreover, physicians, from prejudices of education, as well as from conscientious convictions of duty, rarely omit the ordinary remedies in severe disease.

“Just here, then, is a defect in our therapeutic literature which we find it difficult to correct. Our libraries are full of books on therapeutics proper, but contain few on nature’s power of curing disease. And yet there would seem to be no good reason why, if nature has the power of creating disease, she may not have the power of curing the same, and that she has such power there can be no doubt.

“It is an old aphorism that ‘physicians cure—*i. e.*, “take care of”—but nature heals.’ In visible diseases, surgical so-called, nobody doubts that this is the case. The surgeon does not cure the fracture, the wound, or the ulcer; he merely guides the operations of nature, removes obstacles, and the vital power restores to health.

“And the same principle, precisely, holds good in internal diseases, the relations of which are simply hidden from our senses.

“What, then, does art do toward curing? Art only assists nature in restoring the vital forces to their normal action.

“It is an error very liable to beset the young practitioner, to try to meet every different symptom by the addition of another drug to his formulæ. This is sure to lead to excessive medication. Let me guard you against becoming ‘shot-gun practitioners,’ on the principle that, if you fire a profusion of shot, it is extraordinary if some do not hit the mark! Quantity and complexity of prescription are very apt to be in proportion to the obscurity of the case. The strong and successful practitioner is usually a man of few remedies.

“And always—let me once more insist as a sound rule of practice—*when you have doubts as to your knowledge of the case, or doubts as between nature and drugs, resolve that doubt, for the time being, in favor of nature.* And, whether administering drugs or not, see that your patient is put on the best possible *hygiene*; that his room is airy and well lighted; that his drinks are suitable; that his food is adapted to his case; that he is bathed and sponged if too hot, and warmed if too cold; and, above all, that his mind and nervous system are kept as quiet as possible.

“We should enforce a rigid hygiene in obedience to a most conservative and safe rule of practice, namely, *that it is the duty of the physician to restore health by the simplest means in his power.*

“Trousseau, the great clinical teacher of France, has well said that ‘*to know the nature and cause*

of disease is more than half of medicine.' And, let me add, from another stand-point of medicine, To know the natural cure of disease is more than half of therapeutics."

In these last quotations we have an inkling of the true healing art, which, as there intimated, consists in so applying and using hygienic agents that the efforts made by the various organs of the body may be successful in removing all impurities from the system and in overcoming all obstructions.

It is evident that whatever rules and regulations are applicable to the preservation of health, are also, in a certain degree at least, applicable and adapted to the restoration of health, for those laws which it is necessary for him to obey who would keep healthy, must certainly be obeyed by him who would become healthy. The truth of this will be very evident to a person who understands how the body is affected by surrounding conditions and influences, and is thus enabled to appreciate the importance of hygienic agents as a means of restoring health. The subject of Hygienic Agents has been considered in Part I.

If the reader has carefully perused the preceding pages, there can be little doubt that he fully understands that disease is remedial effort, is an effort on the part of the organism to remove impurities from the system, and that, consequently, the only safe and successful way to treat

disease is to supply such conditions as will enable the diseased organs to be successful in their efforts. This being the case, how foolish it would be to simply watch the symptoms of a disease, and to so medicate the patient as to mitigate or change the symptoms without removing the cause which occasioned them! As previously stated, diseases are self-limited in their nature, being simply efforts to remedy evils that exist in the system. This being the case, the moment the evil, the impurity, or obstruction is overcome or removed, that moment the disease will cease. Therefore, in the treatment of disease, we should ever direct our attention to the cause of the disease and seek to remove it; well knowing that when this is accomplished, we have done all that is required. We should never watch the symptoms and medicate them, as many physicians do; for in so doing we create a new symptom every time we cause an old one to cease. So long as an individual has impurities in his system, and his organic nervous system has sufficient vitality to recognize their presence, just so long will there be an effort made by some organ to expel it; and if we stop this effort without removing the cause that occasioned it, some other organ will be called into action, and new symptoms will be manifested.

In treating disease, we should simply seek to control the vital actions so that they shall not become so violent as to destroy any organ or tis-

sue, and this we may do in three ways: first, by reducing or changing the temperature of the part; second, by inducing increased activity in the skin by inducing a more active circulation therein, which is readily done by the proper application of the bath; and third, by a proper application of the various hygienic agents, thereby supplying as nearly as possible those conditions which are necessary to preserve the body in health. Most invalids make the mistake of seeking present relief, regardless of future consequences. This is wrong, as it becomes a source of temptation for them to take, and for physicians to administer, articles that will seriously affect their constitutional vigor in the future.

The foregoing pages treat upon the various hygienic agents necessary to the maintenance of health, and the nature and cause of disease and the true relation of drugs and medicines to the human system; but little has been said, however, in regard to the treatment of disease, except in a general way. The object of the following pages will be to explain the fundamental principles of water treatment, and to describe the various baths and their application, together with the diseases to which they are severally adapted.

PART III.

THE BATH:

ITS USE AND APPLICATION.

GENERAL PRINCIPLES.

INASMUCH as disease cannot exist where there is no disturbance of the vital functions, and as there can be no disturbance of these without an unbalanced circulation of blood, it follows that whatever agent or agents will give us the most perfect control over the circulation, and enable us to keep it equalized and well balanced, will be the most proper agent for us to employ in the treatment of disease. Medicines that occasion a change in the actions of any of the organs of the body, or that produce what medical men term a medicinal effect, are poisons; and they, instead of restoring a proper balance of the circulation, only occasion a change of excessive vital action and circulation from one organ to another, usually leaving the system in just as unbalanced and disturbed a condition as before the medicine was taken, and oftentimes in a much worse condition. If we examine the nature and cause

of health, we shall find that it is highly important that the right degree of temperature be constantly maintained in all parts of the system; otherwise, an equally balanced circulation cannot be maintained. (See Part I., p. 28, article on Temperature.)

This being the case, it is evident that, if we can have perfect control of the temperature of the body, we can, in a measure at least, have control of the circulation also. Therefore, whatever agent will give us the most perfect control over the temperature of the body and its various parts, will be the very best agent for us to employ in the treatment of disease.

There can be no question but that water, in its various modes of application, will give us a more nearly perfect control over the temperature of the body than anything else we can employ. In seeking to know when, and why, and how, to use water in the treatment of disease, we must never lose sight of the fact that whenever the body or any part of it is diseased, some part, at least, is clogged with impurities, or is congested or swollen with the fluids of the body; and that the disease consists largely of an effort on the part of the organism to remove the obstruction and its cause. If the obstruction consists of poisonous substances taken from without, or of retained excretions, those substances form an obstruction by becoming entangled or lodged

in the tissues, where they either hinder, or entirely prevent, the usual life processes from being carried on.

These poisonous matters are held in solution in the blood, and are divided into particles too minute for us to distinguish with our external senses, yet they are sufficiently large and solid to obstruct the nicely adjusted mechanism of the vital structures of our bodies. Now as these unusable substances can reach the tissues only as they are circulated in the blood, being held in solution by it, it is evident that in many cases the drinking of pure, soft water would result in great good, as the elimination of this water by the kidneys, the sweat glands, and other depurating organs would remove much of the poisonous matter held in solution by the watery portion of the blood. Water, being the most perfect solvent of any known fluid, dissolves out, and washes away the impurities that have clogged the system, unless it is itself so saturated with similar materials that it can retain or dissolve no more.

Water is not only useful when used as indicated above, but it is also useful when applied externally as a purifying agent. The skin contains an innumerable number of little orifices, called pores, through which more than one-half of the waste and effete matters of the body are

passed off as the insensible perspiration. The mouths of these pores open upon the surface of the body, and deposit the matter thrown off through them upon the skin. If this waste matter is not removed, it accumulates, dries, and soon chokes up these openings, thus causing a retention of the effete matters within the system. A daily bath for three or four days for a person in this condition, if he is of ordinary strength, is a very effectual means of removing these deposits, thereby enabling the system to regain a condition of health by discharging the impurities through the pores of the skin. If the skin has not been properly attended to for a long time, the pores will not only be clogged, but the entire system will be very gross, being filled with the retained excretions, and a diseased action will be set up in some of the internal organs for the purpose of removing these waste matters which should have been thrown off through the skin. In such a case it is apparent that the only treatment that can be given is that which will set the sweat glands at work, and thus relieve the internal organs from congestion. To accomplish these purposes, the prolonged warm or hot bath will be found the most effective treatment that can be given, for it softens and washes away all the impurities from the surface of the body, and also softens the skin, and thereby enables the sweat

glands to excrete more readily the insensible perspiration with its contained impurities. By heating and moistening the surface, it will also draw a great amount of blood from the internal organs to the surface, thereby relieving them of congestion, and at the same time inducing a much greater action in the skin and its appendages, so that a greater amount of impurities shall be thrown off through the skin. If the patient's system is very foul, it may be found necessary to repeat the bath daily for several days, or to apply a wet-sheet-pack, or even a vapor-bath daily, or to alternate these for a few days, in order to successfully remove obstructions from the system. Prolonged baths should never be given daily to any but the strongest patients.

Water may be so applied as to excite special action in almost any organ in the body, if proper attention is paid to the temperature and the mode of application. It may be used so as to produce vomiting, purging, sweating, diuresis, etc. It may be made a tonic, a stimulant, a sedative, or an alterative. In fine, by means of it we can accomplish nearly all the results aimed to be produced by medicines.

Inflammation in some part of the body is an accompaniment of most of the diseases to which the human family are liable, and this is more quickly and effectually allayed by water than by any other means; and as water enters so largely

into the composition of the human frame, we have the assurance that, however much may be absorbed, no evil results will follow. The cooling property of water renders it of priceless value in the treatment of inflammations and fevers. The natural temperature of the body in health is 98° Fahrenheit, and it cannot vary much from this without serious difficulties following. In fact, if the temperature of the whole body were to be raised or lowered nine degrees from the natural standard, death would be the inevitable result. In all fevers and inflammations there is an increase of temperature, and the danger depends upon the degree of heat that is present. If the heat is intense, the fluids of the body undergo rapid change; and unless some agent can be found that shall reduce the temperature of the part, death must speedily result. The treatment required in such cases is to reduce the temperature and equalize the circulation.

If the temperature of the body is too high, it can be readily reduced by the application of water, which should be applied continuously if cool or tepid, or if warm or hot it should be applied alternately with cold, or for but a few minutes at a time. If the temperature is too low, it can be readily raised by the continuous application of warm or hot water, or of dry heat. Water, when used either externally or internally, is the very best agent known for cooling the system, for the

reason that it requires more heat to give a sensible warmth to a given amount of water than to an equal weight of any other common substance.

A vast amount of heat is required to convert water into vapor rapidly; hence, when water evaporates from the surface of the body, no matter at what temperature it has been applied, it serves as a constant cooler of the surface. It is this evaporation of water that makes it serve so beneficial a purpose when applied in the treatment of fevers and inflammations. The heat required to convert the water into vapor in these cases is all obtained from the body; consequently, the temperature of the body must be lowered if water is allowed to evaporate from its surface. This being the case, it is easy to understand how fever and inflammation may be reduced by the frequent application of water of any degree of temperature. Internal fevers may be reduced by cool drinks. The cool fluid is absorbed and circulated with the blood, and the fever of the internal organs is thus reduced, a certain amount of heat being used up in raising the temperature of the liquid taken to the same degree as the blood. The greater the variation of the temperature of the body from the common standard, the more constant and assiduous must be the application of water, both externally and internally.

It is this cleansing, absorbing, dissolving, and

cooling power of water, by means of which the effete matters are removed from the system, and its temperature and the circulation of its fluids regulated, that renders water so efficient an agent in the restoration and preservation of health.

All systems of medicine recognize the fact that, in the treatment of disease, it is necessary to accelerate the change of matter in order to renovate the tissues and invigorate the various organs. To do this, they bleed, purge, or mercurialize their patients down, and then give wine, tonics, and a "generous diet" to stimulate them up again as fast as possible, thus doing and undoing interchangeably. Bathing, pure air, appropriate exercise, and plain, simple food, will effect a change of matter incomparably more rapid, and without the destruction of healthful materials, than can be accomplished by any other mode of treatment.

HOT AND COLD APPLICATIONS.

Heat and cold exert a powerful influence on the nervous organism, as well as on the temperature of the body and the circulation of the blood. Heat applied to any part of the body expands the vessels of the part and increases the activity of the nerves. The blood vessels enlarge, and lose their contractile powers to a certain extent, and become more or less distended with blood. Cold

applied to these vessels causes them to contract and force the blood out, leaving less than their usual supply.

In congestion and inflammation the circulation is obstructed by the capillaries becoming distended and surcharged with blood. The most successful means of overcoming these conditions is by the use of water. Water, when applied cold, will absorb the heat and cause the capillaries to contract, thus forcing the blood out and so relieving the congested organ. If the water is applied very hot at first for a few minutes, and then quite cold for a short time, alternating thus for thirty to sixty minutes, the blood will be caused to circulate freely through the parts until the cause of the congestion is removed. This last method of applying water is very successful in removing congestions where they are not deep seated. But if the inflammation is deep seated, prolonged hot applications in the region of the inflamed part will be found the most efficacious, as it relieves the affected organ by relaxing the vessels of the surface and thus causing them to become distended with blood, which is thus diverted from the previously inflamed or congested organ.

When any part of the body lacks its due proportion of blood, which is frequently the case with the surface, and especially with the hands and feet, a sensation of coldness results. If we apply heat to these parts, the capillaries become

distended, the blood flows more freely, and they become warm. The first effect of cold applications to the surface is to force the blood in upon the internal organs, thereby inducing an increased action of the heart to force the blood back again into the capillaries; and if the cold is not too intense, nor too long applied, the increased activity of the circulatory system makes the circulation freer, and the parts warmer than before the cold was applied. This effect is termed reaction, and it is brought about wholly by the nerve centers of organic life. When the cold is first applied, they recognize that there is danger of the system becoming too cold; and they immediately set the tissues of the entire surface of the body at work in a rapid manner to warm up the part. This explains how it is that a strong and vigorous person can take a cool or cold bath and be warmer immediately after than before taking it, or than immediately after taking a tepid or warm bath. It also explains why tepid or warm baths, and in some instances even hot baths, are better to alleviate fevers than are very cold baths. It is because the reaction is less after the tepid, warm, or hot bath than after the cool or cold bath.

HEAT AND COLD TO THE SPINE.

Dr. John Chapman, of London, has made some interesting discoveries in regard to the application of heat and cold to the spine. The following

is a statement of his theory, as presented by Dr. Miller, of New York :—

“Heat or cold, applied over the spinal column, exerts an important influence upon different parts of the body. The effect upon the internal organs and remote parts of the body is directly opposite to that produced upon the capillaries in the region where the application is made. To illustrate: By applying heat to the feet, the flow of blood to them is increased, and they become warm; the same result is accomplished by applying cold to the lower part of the spine. Cold is applied to the bleeding vessels to stop uterine hemorrhage; hot applications to the middle of the spine will have the same effect. Cool or cold compresses are applied to the chest for pleurisy or inflammation of the lungs; hot applications to the spine, between the shoulders, will arrest these inflammatory processes much more speedily.

“A knowledge of these facts, and of the correct methods of applying heat and cold to the different portions of the spinal region, and to other portions of the body, serves to make these the most powerful agents we have for the control of disease, whether acute or chronic.

“There are thirty-one pairs of spinal nerves, one of each pair being given off on either side of the spinal column. Each nerve has two roots, a posterior or sensitive, and an anterior or motor,

root. These two roots unite near the spinal cord, forming one nerve, which, after receiving two small fibers from a ganglion of the great sympathetic nerve, extends to some remote part of the body. Thus the thirty-one pairs are distributed, each in its order, to the different organs.

“The great sympathetic nerve, so called because through it is produced a sympathy between different organs of the body, consists of a series of ganglia, connected by nerve fibers, situated on each side of the spinal column, and extending from the base of the skull to the lower part of the spine. When heat or cold is applied on each side of the spine, over these ganglia, it exerts a powerful influence upon the organs to which nerves from these ganglia are distributed.

“Hot applications over the ganglia that sends nerves to the lungs, heart, stomach, liver, bowels, kidneys, or genital organs, will diminish the flow of blood to those organs. Thus, for inflammation of the head and throat, apply cold to the inflamed parts, and heat to the back of the neck; for inflammation of the pleura, lungs, or heart, apply cold to the chest, and heat to the spine, between the shoulders; for inflammation of the stomach, liver, or spleen, place cool or cold applications over the part, and apply heat to the spine, just below the shoulder blades; for inflammation of the bowels, kidneys, or genital organs, apply cold to the inflamed part, and heat

to the middle and lower part of the back. Heat, applied to the spine in these places, will check hemorrhage in the organs to which the particular nerves over which the application is made are distributed. Uterine hemorrhage is effectually arrested by the application of heat to the middle of the back.

“Ice applied between the shoulders increases the flow of blood to the breast and warms the hands. Ice applied to the lower portion of the spine prevents cold feet, relieves painful menstruation, piles, constipation, cholera, chronic diarrhea, spermatorrhea, and removes diseases of the bladder and many other difficulties. Ice, applied the whole length of the spine, is very effectual in cases of epilepsy, Saint Vitus’s dance, diabetes, and paralysis.”

GENERAL RULES FOR BATHING.

1. A bath should never be taken when the stomach is actively engaged in digesting food; for in bathing the blood is sent to the surface in such quantities that the work of digestion would be retarded if it was taking place at the time of taking the bath. For the same reason, food should not be taken into the stomach immediately after a bath, nor until ample time has been allowed the system to react well. The most appropriate time to take a bath is about ten or eleven o’clock in the forenoon.

The system, as a general thing, is in better condition at that time than at any other of the day. The body has been refreshed by the morning meal, which, by that time, should be well digested, and it has not become wearied with the labors of the day.

The bath may be taken on retiring for the night with the best of results, or in the afternoon. And on special occasions, when accident or sudden sickness seems to demand, it may be taken at any hour of the day or night.

2. Women should not take much treatment during the menstrual period; for a cold bath at that time would be very liable to check the menstrual function, and might cause most serious consequences; while a hot bath would be liable to produce hemorrhage, and any form of a bath would be liable to overtax the system unless the bather was of the most robust constitution.

3. A bath should never be taken in such a manner as to produce cold feet, or headache; always wet the head with cool or cold water before taking the bath, and if the feet are cold, have a warm or hot bath for them.

4. Never bathe when the body is greatly fatigued; for proper reaction cannot then take place and the patient will be liable to chill, and so will not receive the benefit he otherwise would; yet a lively sponge-bath, or a plunge or shower-bath, would have a soothing effect, even

if taken when the bather was somewhat tired, if he was not too much fatigued.

5. All general baths should be taken briskly, and the bather himself should rub vigorously, that he may quicken his circulation and respiration, and thus secure the warmth and reaction that is so essential after every bath.

6. A sheet is much better than a towel to dry the body after bathing, as it is so much larger. When possible, the bather should have an assistant to rub him while in the bath, and to dry him afterward. In drying the bather, the assistant should cover him with the sheet in such a manner as to completely envelop his body. He should then rub the body thoroughly, pressing the sheet down upon every part, drying it well; after this, the sheet should be removed, and the assistant should rub the entire surface of the body well with the dry hand. It is always well to percuss or slap the flesh gently with the hand for one or two minutes after wiping dry with the sheet or towel. The entire process of drying the patient, and rubbing and percussing him until a good reaction takes place, ought not to occupy more than four or five minutes.

7. Whenever an invalid takes a bath, it should be in a warm room, so that he shall not chill. The temperature of the room should be from 70° to 85° Fahrenheit.

8. When the weather is suitable, the bather

should take exercise in the open air immediately after his bath, unless he is too weak to do so. If the weather is not suitable, or if the bather is too feeble to take active exercise, he should retire to his room and cover up warm in bed for an hour or so, and sleep if possible.

9. None but the very strongest persons should bathe in cold water. Nervous individuals, and those who have weak digestive organs, or who have a feeble circulation, should not use even very cool water in bathing, neither should consumptives, nor those who are liable to hemorrhage, nor those who are just recovering from any severe acute disease. Not one in a thousand of the strongest men and women can take frequent cold baths without seriously damaging his health.

10. Always use a thermometer to determine the temperature of the bath for invalids.

TEMPERATURE OF BATHS.

Many of the early practitioners of hydropathy have brought the system into lasting disrepute by the indiscriminate use of cold water in treating the sick ; and very many persons at the present day have such a horror of the cold-water cure that they will hardly tolerate the use of water at any temperature, even for cleanliness.

The various conditions and temperaments of patients require that the bath for one should differ in temperature and duration from that for another.

A general rule to be observed is that all weak and nervous patients should bathe in water of that degree of temperature most agreeable.

Baths are classified as cold, cool, tepid, warm, and hot. The nervous sensibilities of people differ so widely that a bath which would seem tepid to one person is cool to another, while it might seem warm to a third. Again, disease, or change in the temperature of the atmosphere, may so change a person's condition that a bath that would seem cool to him at one time might seem tepid at another; so we find that our sensations are not the proper guides for us to follow.

The following table gives the temperature of the various baths as indicated by Fahrenheit's thermometer.

Cold baths range from 32° to 65°			
Cool	"	"	65° to 80°
Tepid	"	"	80° to 92°
Warm	"	"	92° to 98°
Hot	"	"	98° to 115°

As 32° is the freezing point, a bath should never be given at this temperature. Water at from 55° to 65° will be as cold as need be for the cold bath, if given as a general bath; yet in many local diseases, ice-water, and even ice itself, is none too cold to be applied to the affected parts.

BATHS FOR INFANTS AND CHILDREN.

To most children the bath is a luxury, if properly given. It should be tepid or warm for very young or feeble infants, and should not be too frequently administered. A general bath once in four or five days will be sufficient for such children, except in very hot weather, when, if the heat affects them much, they should be bathed more frequently.

After children are six or seven months old, if they are stout and healthy, a tepid or cool hand-bath two or three times a week, if properly administered, will prove just as beneficial to them as is the daily currying to young colts. Children should always be bathed quickly. The naked hand is better than either a sponge or a cloth to rub the body with while bathing.

THE SPONGE OR HAND-BATH.

This bath is more easily administered than any other form of bath that can be given, as it can be taken in any room in the house, or may be given to very feeble patients even while in bed. All that is required is a basin of water, a sponge or soft cloth, and a towel, with a rug to spread on the carpet to prevent soiling it. A very good protector for the carpet can be very easily made. Take a piece of cotton cloth one and one-half yards square, and hem in a one-half

inch rope around the edge. Then paint the cloth with two or three coats of white lead and boiled linseed oil; this will make it water tight, and the edges being raised by the rope will prevent any water from running over upon the carpet or floor. In taking the sponge-bath, have a bucket or large basin of water, which may be of any temperature that the conditions of the body may demand, into which dip the sponge, and on removing, squeeze it until it does not drip, and then wash the face, neck, head, and arms first, rubbing them vigorously. Then wipe dry. Next, wash the back, chest, and abdomen, and wipe in the same manner; after which, bathe the lower extremities in the same way. When this bath is given to the patient while in bed, as is often necessary with those who are very feeble, begin with the head, and proceed in the same manner, always keeping the parts that have been dried well covered with the bedclothes. This is a bath of universal application, there being no patient so feeble that it may not be administered with safety, provided the water is of the right degree of temperature. It will cleanse the skin thoroughly, and will equalize the circulation by inducing a gentle reaction to the entire surface. It will relieve congestion of the internal organs by inducing an increased circulation in the surface. It will subdue fever and allay inflamma-

tion by reducing the temperature of the body ; and it will give a general feeling of freshness to the entire system. It will also soothe the nerves, if they are excited, as nothing else will, and will produce quiet, rest, and sleep many times when all other things fail. This bath may be given with the naked hand, and is, when given thus, a milder form of the bath than when given with the sponge, as less water is applied to the patient's body.

THE FULL-BATH.

For persons who are in health, and for the majority of those who are invalids, there is no bath that affords more pleasure than the full-bath when rightly administered, with water of the proper temperature. Every family should possess a bath-tub of sufficient size to allow the taking of this bath. For this purpose, the bath-tub should be about six feet long, twenty or twenty-four inches wide, and eighteen or twenty inches deep. Those who can afford a separate room for bathing purposes, and who have a plentiful supply of water, should have such a tub. It should be lined with tinned copper, or with zinc, and should have an outlet in the bottom, with a stopper. Those who cannot afford such a bath-room and tub can make a portable tub that will answer every purpose.

Make a rim of hickory, and bend it into form, so that it shall resemble the outline of a full-bath

tub; then make a sack in the shape the tub is to be, of heavy duck cloth, and nail it to the wooden rim; then paint the cloth on both sides with white-lead paint, or oil it with boiled linseed oil. Two coats will be required to make it water-tight. In taking the full-bath, water sufficient to cover the patient all except his head, when lying down, is required.

This bath is very useful for cleanliness and refreshment, and there is no bath better than this to remove soreness from the muscles, or stiffness from the joints, after the toils and fatigues of physical labor, or to calm the excitement of the brain and nervous system after prolonged mental labor. If this bath is taken to afford refreshment to the nervous system, the water should be tepid, and the bath should last about ten minutes. If it is intended to remove soreness or stiffness from the muscles and joints, it should be warm, and should be prolonged to fifteen or twenty minutes, after which it should be reduced to tepid, and continued five minutes longer. The bather should rub himself well while in the bath. If it is administered for the purpose of breaking up a cold, the water should be very warm, or hot, and it should be administered for fifteen or twenty minutes unless the patient sweats freely, or becomes faint; in either of these cases, the temperature of the water should be reduced ten or fif-

teen degrees, for three to five minutes before the patient leaves the bath.

The hot full-bath is very useful in relieving the acute pains of neuralgia, rheumatism, gout, and many other painful inflammatory affections. It will also often greatly mitigate the cold stage in fever and ague and other fevers. Care must be taken to cool the patient gradually, after taking a hot full-bath. This may be done by cooling the water, as above described, and then, as the patient rises from his bath, pouring a few quarts of cool water over him. Always wet the patient's head with cold water before taking this or any other form of bath.

THE HALF-BATH.

This bath is taken in the same tub as is the full-bath, the patient, however, occupies a sitting posture. An amount of water sufficient to cover the limbs and feet, and a portion of the abdomen, is required. An attendant should rub the chest and back, while the patient, if able, should rub the abdomen and limbs. This is a milder form than the full-bath. It is much employed in dyspeptic affections, liver complaints, affections of the spleen and kidneys, weakness or torpor of the abdominal muscles, spinal irritation, uterine diseases, and in all forms of menses. The temperature of this bath should not be above 95° nor below 75°. This bath is useful in all

spasmodic affections; and in the early stages of fever, the prolonged half-bath may be employed with the very best of results. Patients suffering with inflammation of the bowels and adjacent organs, diarrhea, dysentery, cholera morbus, colic, etc., will find the prolonged half-bath well adapted to their conditions, and they will derive great benefit from its use. This bath is always safe for any length of time under sixty minutes, provided the patient is not fatigued, chilled, nor overheated, thereby.

THE SHALLOW-BATH.

This bath is better adapted to very feeble patients than either the half-bath or the full-bath; hence it is more frequently employed in treatment.

The ordinary bathing-tub can be used in giving the shallow-bath; but it is more convenient to use an oval or circular tub, which should be about nine inches deep, and raised about one foot above the floor.

The water in the shallow-bath should not be more than five or six inches deep. The temperature, which must be adapted to circumstances, should be between 65° and 90° . If the patient is feeble and the circulation weak, and the sensibilities keen, the water should be of a higher temperature than if the patient has more strength or is less sensitive. The bather should assume a sitting posture, as in the half-bath. He should

be rubbed vigorously, either by himself or by an attendant, so as to get up as good an action of the tissues as possible, and to induce an active circulation in the surface. The arms, chest, legs, and feet, should each receive their share of the rubbing by the patient, if he is able, while the attendant rubs the back, shoulders, and other parts of the body.

If no attendant is present, the patient should fill the sponge with water and squeeze it repeatedly over the neck and shoulders, letting the water run down the back. If a sponge cannot be obtained, a soft towel will answer every purpose. After dipping it in water and squeezing it over the shoulders a few times, the towel may be thrown across the back, one end being grasped by one hand above the shoulder, and the other end by the other hand below the waist. The towel may then be drawn briskly in various directions across the back until it has received its share of the general rubbing. The patient may remain in this bath from one to fifteen or twenty minutes, according to his condition. On leaving the bath, a few quarts of water, five or ten degrees cooler than the bath, should be poured over the patient's body, and this should be followed by the dry rubbing-sheet and rubbing with the dry hands. This is a derivative bath, and is well calculated to draw the blood from any congested organ to the surface. It is also very use-

ful in cooling the blood in hot stages of fever, and in many forms of inflammatory disease. It is also good to relieve a rush of blood to the head, sunstroke, apoplexy, delirium tremens, and all forms of spasmodic diseases, as fits, convulsions, etc. It is also useful in relieving a person suffering from the effects of severe nervous agitation. The cool or tepid bath is the best and safest temperature, and the one at which this bath should generally be given, yet there is no danger in taking it at any temperature, provided a proper reaction is induced, so that the patient resumes his usual temperature afterward.

In giving this bath to relieve children when in spasms, place the child in the tub, and with the hand apply cold water to the spine two or three times; this will, in most cases, bring relief from the spasm.

THE HIP OR SITZ-BATH.

The sitz-bath may be given in a common wash-tub, although a tub made for the purpose is better. If a wash-tub is used, the back side of it should be raised three or four inches. To give this bath properly, three or four gallons of water are required. It may be given either cold, cool, tepid, warm, or hot. In this, as in all other baths, the cold and the hot, being the extremes, produce much more powerful results than will the cool,

tepid, or warm baths, and, consequently, require more attention in their application.

This bath is a powerful tonic when applied cold, or cool, daily for five to ten minutes. But if it is extended to twenty or thirty minutes, it becomes a strong derivative and sedative, whether given cool, tepid, or warm. For diseases of the bowels, urinary and reproductive organs, this bath is invaluable. For constipation, diarrhea, dysentery, piles, diseases of the kidneys and bladder, and for chronic affections of the stomach, liver, and spleen, it is one of the most effectual forms of bath that can be used.

In taking this bath, always wet the head with cold water before sitting down in the tub. The feet should be placed in a foot-bath while taking the sitz-bath. The water for the foot-bath should be five or eight degrees warmer than the sitz-bath. After the patient is seated in the bath, an attendant should throw a blanket over him in such a manner as to completely cover all but his head. It should be so adjusted as to keep the steam from escaping from the bath-tub. The patient should then thoroughly rub his abdomen, chest, and hips. The length of time to which this bath should be prolonged, and the temperature at which it should be given, depend wholly upon the condition of the patient and the effect desired to be produced. If the patient is weak and debilitated, and it is desired to tone up his

system, the bath should be taken at a temperature of from 85° to 90° , for five or eight minutes, after which it should be reduced ten degrees and continued three minutes longer. If it is taken for the purpose of removing congestion, or to relieve headache, it should be at a temperature of from 90° to 98° , and should be prolonged to twelve or fifteen minutes; after which, reduce the water 10° and take the bath for three or five minutes longer.

For removing a severe cold, wet the head with cold water and have the water in the sitz-tub at 100° , gradually raising it to 110° , with that in the foot-bath two or three degrees hotter. Cover the patient with a blanket, as before directed, and let him sit in the bath for fifteen minutes or half an hour, unless he sweats profusely, or becomes weary, or liable to faint; in which case, take him out, after first cooling the bath in the usual manner. It will be necessary to add, occasionally, hot water to that in the bath, while the patient is in it, so as to keep it at the proper temperature, which should be as hot as he can well bear. Drinking a glass of hot water after sitting in the bath eight or ten minutes will hasten the sweating process. The patient should not be allowed to remain long in the bath after sweating begins. The object is not to occasion profuse sweating, but to open the pores of the skin, and thus establish the work of depuration through the skin, and draw the blood from the congested organs. After

sweating has begun, or on leaving this bath for any cause, the water in both the foot-bath and the sitz-bath should be reduced 10° , and after the lapse of three minutes it should be reduced 10° more. The patient should then wash off briskly, wipe dry, and rub well with the naked hand. One such bath will usually break up the very worst cold if the patient will, in the meantime, abstain from eating for one or two meals, being careful not to expose himself, and keeping quiet.

Prolonged cold hip-baths should never be taken except by direction of a skillful physician, for there is danger of producing local congestion if they are given unskillfully.

THE FOOT-BATH.

This bath may be taken in a large wash-basin or tin pan, or in a water bucket, or in a tub made for the purpose. It consists in placing the feet in a sufficient amount of water to cover both them and the ankles well. It may be of any temperature that the condition of the patient shall require, and may be of from one to thirty minutes' duration. The cold foot-bath should always be of very short duration. The hot foot-bath, taken three or four times a day for three to five minutes, will often relieve headache, toothache, or acute pain in any part. When taken in connection with the sitz-bath, the foot-bath is a most useful application.

THE SHOWER-BATH.

The ordinary shower-bath consists of a number of small streams of water falling upon the patient from a perforated vessel. The effect produced depends upon the size of the streams, the height from whence they fall, and the temperature of the water. Large streams of cold water, if falling but a short distance, will produce a severe shock on the nervous system. Small streams will produce an equally severe shock if the water falls through a considerable space. Several years since, the shower-bath was the favorite bath in many water-cure establishments; but as it was administered quite cold, it injured many patients by its severity; hence, it gradually fell into disrepute, and the spray-bath has generally taken its place in health institutions.

The shower-bath is, however, very valuable if properly administered. It should be taken, as a general thing, at a temperature of from 70° to 90° , when it will be found quite effective as a tonic. The cold shower upon the head is quite injurious, as well as painful, if the water falls any considerable distance, and is applied for any considerable length of time. Used in this way, it has sometimes been adopted in penitentiaries as a mode of punishment for intractable prisoners. The culprit was placed on a seat in such a manner that he could not move his body or head

from a fixed position. A small stream of ice water was then allowed to fall several feet and strike the crown of the head. This infliction was so severe that it was more dreaded by the prisoners who had once received it than was the time-honored cat-o-nine-tails. The injurious effects on the prisoners was very great; not so much, however, from the water itself, as from its extremely low temperature, and prolonged application, together with the fact that the culprit was confined in a fixed position.

The shower-bath should be given in the following manner: Begin with tepid water, then change to cool, and at last, for an instant, a dash of cold water. Never let the cold water fall directly upon the head except for an instant. Begin with letting the water fall upon the hands and arms, rubbing them briskly in the mean time; then let it fall upon the legs and feet, then upon the various parts of the body.

This bath is very useful when properly applied, not only in promoting cleanliness, but also in exciting the superficial circulation, and in removing internal congestions and inflammations. It may be given advantageously, also, in some cases, after a pack or vapor-bath.

THE SPRAY-BATH.

This bath has taken the place of the shower bath in many health institutes. It is produced

by connecting a hose pipe with spray attachment to a force pump, or water-pipe where there is a considerable pressure, the water being forced through a flat plate of copper or brass which is perforated with several small holes.

In giving the spray-bath, it is better to have the water so arranged that it can be changed from hot to cold, or any intermediate temperature, at pleasure. Probably this bath affords more pleasure than any other bath that can be administered. It is a light bath, and may be taken with safety by patients too feeble to take many other forms of bath.

The spray-bath may be administered with profit after almost any other. It is very useful in subduing local inflammations and swellings, in reducing fever, and in inducing an active circulation in the surface.

DRIPPING-SHEET BATH.

This is a very useful and pleasant manner of taking a light bath. The bather should stand in a shallow foot-bath at a temperature the same as the general bath. An attendant should dip a large sheet in water of the proper temperature, then taking the sheet by one end in both hands in such a manner that it can be readily spread out, he should lift it, dripping wet, and apply one corner to the patient's shoulder in such a manner that the side of the sheet shall hang per-

pendicular and just reach to the floor, and then, holding that corner in place on the shoulder, the sheet should be passed around the patient until he is completely enveloped in it with the exception of his head. This should be done very quickly, fifteen or twenty seconds being all the time required. As soon as the sheet is applied, the attendant should proceed to rub the patient vigorously, yet carefully. The hands should pass three or four times over the same place, then over adjoining parts, and so on until every part of the body has received its due proportion, and should then be repeated ; after which, a pail of water five degrees cooler than the sheet may be poured on the chest and shoulders, and the rubbing process repeated for two or three minutes. The attendant should then remove the wet sheet, and immediately envelop the patient in a dry one, and proceed to rub him as before, continuing the operation until the entire surface of the body is dry, after which, the dry hand-rubbing and percussing may be vigorously given for two or three minutes. It is a very valuable bath for those patients who are too feeble to take a prolonged full-bath, or who may be suffering from nervous affections, dyspepsia, general debility, inflammation, fever, and in cases of feeble circulation, and local congestion or inflammation, as it occasions increased activity in the superficial circulation, and tones up the entire system, stimulating the nervous or-

ganism to renewed action, thus occasioning an alterative effect. It also serves the purpose of an antispasmodic, being just the bath required in spasmodic affections. If the bather has a good degree of strength the bath may be administered cool; but if he is weak, or of feeble constitution, or nervous, it should be given either tepid or warm.

The dripping-sheet is seldom applied cold, the temperature adapted to the majority of cases being from 85° to 95° .

THE WET-SHEET-RUB.

This bath differs from the preceding in that most of the water is wrung from the sheet before it is applied to the patient; it may be given over the carpet, and in any room in the house. In this bath the sheet is applied to the patient's body in the same manner as is the dripping-sheet, and the rubbing process is precisely similar. It is well adapted to persons of very feeble constitutions, as it is a still lighter bath than the preceding one. If the sheet is applied two or three times, it becomes equally as heavy treatment as the dripping-sheet.

THE DRY-SHEET-RUB.

This cannot be properly considered as a bath, yet as it is an important adjunct to all the general baths, besides being a very useful method of treating many forms of disease when unaccom-

panied with water treatment, I will describe it.

A dry sheet is thrown around the patient, so as to completely envelop him, all but the head, when an attendant proceeds to rub him from head to foot with the hand, rubbing briskly over the sheet. The rubbing should be continued for ten or fifteen minutes.

This form of treatment is good for those who are afflicted with almost any form of chronic disease, and especially for those who are troubled with inactivity of the skin; and it is also valuable for those who are in perfect health, and may be used as a substitute for bathing when the latter would be difficult. Invalids who cannot take water treatment without chilling afterward will find the dry-sheet-rub a most beneficial mode of treatment. It may be taken on rising in the morning, before dressing, or it may be deferred until the regular bath hour, which is three hours after breakfast or dinner. In cases of nervousness and sleeplessness, the dry-sheet-rub may be taken on retiring, or at any time during the night.

It is well to give this form of treatment on alternate days on which no water treatment is given.

In giving the dry-sheet-rub for the purpose of drying the patient after a bath, the sheet should be applied as previously indicated, and the body and limbs of the patient should be rubbed until they are dry and warm.

THE DOUCHE-BATH.

This bath is simply a falling stream of water, so arranged that it shall fall on any desired part of the patient's body. There are several forms of this bath.

THE CATARACT-DOUCHE.

This is a sheet of water, a foot or more in width, made to fall obliquely on the body. Sometimes two buckets are so arranged that they shall at the same instant discharge their contents in a broad sheet, striking the patient on his shoulders and chest.

THE PAIL-DOUCHE.

This is given by an attendant, who suddenly dashes three or four pailfuls of water over the chest, shoulders, back, and sides of the patient.

THE HOSE-DOUCHE.

This bath can be used when there is a sufficient fall from the tank or fountain head to force a stream one-half or three-fourths of an inch in diameter through a hose-pipe with considerable force, or it may be given by attaching the pipe to a force-pump.

In giving this bath, the attendant holds the hose-pipe—which should have a properly-con-

structed metallic nozzle—in his hand, and directs the stream to such parts of the body as it may be desirable to bathe in this manner. This bath is well adapted to inflammations, congestions, or enlargements of the vital organs, to tumors, swellings or stiffness of the joints, and, in fact, to nearly all local difficulties. The stream should be directed to the affected parts. In cases of inflammation, it should be applied cool or cold. If applied cold to the entire surface of the body, it will produce quite a shock, and should be taken by those only whose powers of reaction are great; but as a local bath, none need fear its effects. When taken as a general bath, the stream should be directed, for a brief space of time, along the spinal column, then across the shoulders, sides, hips, and limbs. If the bowels are torpid, a small stream may be applied to the surface of the abdomen; but it should not be applied with very great force.

The douche may be given so as to produce a very slight degree of impression, or it may be so given as to produce as powerful effects as it is possible for the patient to bear, or any degree between these two points. All depends upon the size of the stream, the temperature of the water, and the amount of force with which it is applied.

THE ASCENDING-DOUCHE.

This is simply an ascending stream of water passing through a pipe, as in the hose-douche. The nozzle of the pipe is usually fixed in the floor so as to throw the stream in a perpendicular direction. This form of bath is very useful in piles, prolapsus of the uterus, falling of the bowels, constipation, etc. The stream should not be very strong, otherwise it might cause serious inconvenience.

A very convenient douche-bath may be constructed by placing a small barrel or tank in such a position that water from it will have a fall of eight to twelve feet to strike the patient's body. To this tank attach a short piece of hose-pipe, with a nozzle and stop-cock, and the bath may be easily managed. For local applications, an excellent douche can be administered by an assistant with the aid of a pitcher, only, which should be held a few feet above the point of application; a steady stream of water being poured from it upon the part affected. This we have often done with the best of results in cases of sprained joints, concussions, etc. In most water-cure establishments, the douche has been administered cold in the majority of cases; but our experience is in favor of the warm douche, especially in treating painful swellings and inflamed joints.

THE DROP-BATH.

The drop-bath is usually applied very cold. It is administered by letting water fall in single drops from a small aperture in a vessel that has been elevated a few feet. It is useful in removing swellings, corns, tumors, etc. This form of bath has been used with very great advantage in cases of complicated wounds and fractures, where it was essential that inflammation should be prevented.

THE PLUNGE-BATH.

This is the bath which swimmers take in rivers, lakes, ponds, and in the sea. The youth of both sexes usually enjoy this bath, also many who are not so youthful. There are persons who practice bathing in such places the year round, regardless of the temperature of the water, even cutting the ice in midwinter and plunging into the ice-cold water. It is barely possible that the most vigorous and robust could do this without injury; but it is extremely doubtful whether any person could bathe thus for any very great length of time without ruining his health. Some of the water-cure establishments have in a room adjoining their bath-room a large tank from ten to fifteen feet square, and four or five feet deep, filled with cool water, into which the patient is allowed to plunge immediately after taking a hot-air

bath and many other forms of sweating baths. The patient is cooled, however, before taking the plunge-bath, which is found to be very refreshing. In such a tank the patient can swim or plunge at pleasure. The water is kept pure and of the right degree of temperature, by a constant stream of water flowing into the tank, the temperature of which can be controlled at pleasure. This form of bath confers no benefits that cannot be obtained from some other bath, and as it is somewhat expensive when artificially prepared, it can never become very general in its use ; yet there are very many persons whose habitations are near some pool or stream, who will in the warm season of the year find both pleasure and benefit in taking the plunge-bath occasionally.

THE WET-SHEET PACK.

The wet-sheet pack is, when judiciously administered, one of the most successful modes of treatment that has ever been devised. It is especially adapted to bilious affections, and to all kinds of fevers. To administer the pack successfully, spread on the bed or lounge two or three or more blankets or comforters, the number required depending on their thickness and the temperature of the weather and of the patient; three will generally be sufficient in cold weather, and two, in warm. Next, spread a woolen sheet or blanket over them. Then wet a large cotton or linen sheet, and wring

it so that it will not drip ; or, if the patient is feeble, wring it still more, then spread the sheet over the blanket and let the patient lie down on it upon his back. Having done this, he should elevate his arms, and an attendant should fold the sheet over him from one side, letting it come close up under both arms, and drop between the limbs so as to completely envelop each limb by itself. Having done this, the patient should place his arms by his side or across his chest, when the attendant should fold the sheet over him from the other side, covering both arms, shoulders, and neck. Care should be taken to have the wet sheet touch all parts of the body and limbs, and to have it wrapped closely about the neck and feet ; but it should not be drawn too tightly, for if it is, the patient will become restless. As soon as the sheet is properly adjusted, each blanket should be folded separately across the patient, first from one side, then from the other, taking care to fold them about the neck in such a manner as to exclude all the air. The head should be elevated a little so that the patient can lie comfortable. Care must be taken to cover the feet carefully, so as to keep them warm ; and if clothing fails to do this, a jug of hot water or a hot brick should be applied to them. The patient's head should be kept cool while in the pack by the frequent application of wet cloths. It is well to have a piece of oilcloth two feet square spread under the patient's head

to prevent wetting the bedding. If the patient's feet become cold, his head will be apt to become hot, and ache; therefore keep the head cool and the feet warm.

The temperature of the water in which the sheet is wet should depend altogether upon the conditions of the patient. If he is vigorous, and has a strong circulation, he will react better from a cool pack than from a warm or tepid one; but if he is weak, or has a feeble circulation, the pack should be warm, or at least tepid. If the patient does not warm readily after entering the pack, more blankets should be placed over him, or hot bricks or bottles of hot water should be applied to his sides.

The length of time that a person should remain in a pack varies according to circumstances. Some people think that sweating should always be induced before leaving the pack; but this is not essential. It is quite important, however, that the patient should become thoroughly warm before leaving it, and if he is inclined to remain chilly, a glass of hot water or of hot lemonade should be given him to drink. As a general rule, from thirty to forty-five minutes will be a sufficient length of time for a patient to remain in a pack unless he rests so comfortably that he falls asleep, in which case, he need not be awakened for an hour unless he becomes liable to chill, or sweats too freely, or his sleep does not appear to be natural. If the patient gives evidence of

exhaustion, or sweats profusely, take him out immediately, even if he has not been in the pack more than ten minutes. The wet-sheet pack is applicable in all diseases in which it is desirable to purify the blood, and in all spasmodic affections. It allays excitement, quiets the nerves, and allays all irritations; and when given at a temperature so as to meet the actual state of the patient, it is the most soothing application that can be administered to the external surface.

The pack is very useful in fevers. If the fever is high, the pack may be administered three or four times in the twenty-four hours, in which case the patient should not be allowed to remain in it long at any one time. In past time it was thought that the cold pack was the best in fevers; but it is now found that the tepid pack is better in most cases, for the reason that the reaction after the cold pack is apt to increase the fever. In some cases it is better to apply very warm, and even hot, packs in fever than to give those of a lower temperature. If the patient continues to chill while in the pack, he should be taken out, and immediately given either a warm sitz-bath or full-bath; or if there is no hot water ready, he should take the dry-sheet rub and then cover up warm in bed. There is no danger, however, of a patient of medium strength chilling, provided the blankets are properly adjusted. The pack should always be followed by the dripping-sheet, spray, or sponge-bath, after which the

dry sheet should be applied, the patient being wiped dry, and then well rubbed with the naked hand. Very feeble persons should not take this pack.

THE DRY-PACK.

This consists in packing the patient without the use of water. The bed and blankets are to be arranged the same as for giving the wet-sheet pack. Then, instead of using a wet sheet, a dry, woolen blanket is to be used. The blanket should be made hot and the patient wrapped in it and the blankets as directed for the wet-sheet pack. It is adapted to weak, bloodless persons who cannot endure water treatment. Dry heat should be applied to the feet, limbs, and back.

THE HALF-PACK.

This pack is given to persons who have feeble constitutions with habitually cold extremities. It can be given with safety to those who are too weak to bear a full-pack. The wet sheet extends only from the armpits to a little below the hips; but in all other respects it is given like the full-pack. The patient's feet must be kept warm during and after the pack, and his head must be kept cool. The half-pack may be employed advantageously in the treatment of inflammation of the lungs, pleurisy, inflammation of the liver, stomach, bowels, kidneys, uterus, and other organs of the pelvis. In many cases these difficul-

ties may be fully controlled by the half-pack with no other applications whatever. With this, as with all other baths, the conditions of the patient and the end to be accomplished must determine the length of time the patient should remain in the pack, and the temperature at which it should be administered. It may be applied either cold, cool, tepid, warm, or hot, and is useful in every case in which a full-pack is beneficial, being, however, a milder form of the pack. On leaving the half-pack the patient should take some mild bath, either the drip-sheet, spray, or sponge, and follow these with the dry-sheet and dry-hand rubbing.

LEG - PACK.

Many persons who suffer with habitually cold feet can overcome this difficulty by taking a cold leg and foot-pack for from twenty to sixty minutes, or by applying cold wet cloths for a short time daily. The head should be wet in cold water before applying cold water to the feet. On removing the pack, the feet should be dipped in cold water for an instant, and then wiped dry and well rubbed and percussed with the dry hand.

THE CHEST-PACK.

This is a still milder form of the pack than is the half-pack, as the wet sheet is applied to a smaller portion of the body, being placed around the chest, and reaching from the armpits to the

hips. It is given in the same manner as is the full-pack, and is applicable in all diseases of the chest or any of its organs. On removing the wet sheet, the patient should bathe and dry himself as directed after the full-pack.

THE CHEST-WRAPPER.

The chest-wrapper should be made somewhat like a vest, with the exception, however, that while it passes around the back, and has arm-holes, the two ends in front should be sufficiently long to allow each to pass entirely across the chest, so that the breast shall be covered with two thicknesses. The wrapper should be made double thickness and of thick, cotton cloth. There should be two of these wrappers, one to be worn wet next to the flesh, which should extend a little below the waist, the other to be worn dry over the wet one, reaching to the hips, or two or three inches below the wet one, so as to keep all the moisture from the clothing.

The chest-wrapper is useful in all inflammatory diseases of the chest, provided the patient is not too weak; and in asthma, consumption in its first stages, pneumonia, bronchitis, pleurisy, and dropsy of the chest. All cases of recent cold in the chest are greatly benefited by the use of the chest-wrapper. It should be applied on retiring in the evening, and may be worn all night and removed in the morning; or if the patient is not exposed to drafts and cold air, it may be worn

through the day ; in which case it should not be allowed to become dry. It should not be worn more than thirty-six hours in succession. After wearing it that length of time, it should be laid aside for one or two days before again applying it, for if worn constantly it will be injurious. The best method for most patients to pursue is to wear it only in the night, and remove it on rising in the morning. After removing it, the parts previously covered by it should be bathed with cool, or cold, water, and after drying thoroughly with a towel, should be well rubbed with the dry hand, so as to induce an active circulation in the parts.

THE WET-GIRDLE.

The wet-girdle sustains the same relation to the abdomen and small of the back that the chest-wrapper sustains to the chest and shoulders. It is made and applied in the following manner: Take three or four yards of strong, yet not very coarse, toweling ; wet enough of this to pass one and a third times around the body, and apply it in such a manner that the part most affected shall receive two thicknesses of the wet portion. Then pass the dry portion around the body so as to cover all of the wet portion and prevent the air from coming in contact with it, as rapid evaporation would take place if any portion of the wet cloth was left exposed to the atmosphere, and the patient would chill.

The wet girdle is very useful in all diseases of the abdominal and pelvic organs, and in all cases of weakened and relaxed or torpid abdominal muscles, and is just adapted to dyspepsia, torpid, congested, or inflamed livers, torpid or inflamed bowels, constipation, affections of the spleen and kidneys, inflammation of the bladder, catarrh of the bladder, albuminuria, uterine derangements, such as inflamed uterus, dysmenorrhœa, leucorrhœa, and other menstrual disorders, ovarian difficulties, and abdominal dropsy, in all of which diseases the patient will find the wet-girdle worn about the abdomen one of the best remedies. It is useful also in the early stages of diarrhea, dysentery, cholera morbus, and cholera.

The wet-girdle may be worn day and night in many chronic difficulties; but it should never be worn until the skin becomes sore or disorganized. It has been worn constantly by some patients for weeks at a time, only being removed to be wet as often as it became dry; but it always causes serious injury, when thus worn, as large portions of the skin become disorganized, forming many small, or a few large, running sores, which are a severe drain upon the patient's vitality.

After the wet-girdle has been worn for two or three days, it should be laid aside for two or three days, after which it may be again applied. It should be wet as often as it becomes dry. The best way is to wear it nights, removing it each morning. There are patients, however, who can-

not wear the girdle nights on account of chilling while sleeping. Such persons should leave it off nights and wear it only in the middle of the day. It should never be worn when it causes chilliness. If the patient finds, after wearing the wet-girdle for a time, that the skin is becoming irritable, or painful, or if an eruption or a rash makes its appearance, its use should be discontinued at once. Whenever the wet-girdle is removed, the parts previously covered by it should be bathed in cool water and well dried and rubbed as after other baths. The wet-girdle should usually be applied warm or tepid, unless there is active inflammation, in which case it may be applied cool.

THE WET-COMPRESS.

This is simply a towel or some other cloth folded three or four times, and wet in water of any temperature, and applied over the affected part, with two or three thicknesses of dry cloth to prevent the clothing from becoming wet. The wet-compress is used as a means of making a local application when it is not desirable to administer any of the previously mentioned appliances. It is useful in any local difficulty, especially diseases of the chest and abdomen.

THE WET HEAD-CAP.

The wet head-cap consists of two or three thicknesses of cotton or linen made into a cap to cover the head above the ears. In applying it,

it should be dipped in tepid, cool, or cold water, and may be used in cases of congested brain, periodical headache, rush of blood to the head, inflammation of the brain, and scald head. The wet head-cap is useful as a temporary application in all the above-named difficulties; but it is very hurtful when worn constantly.

In all the above-named diseases, the special remedial process should be the hip-bath and foot-bath, with the wet head-cap applied temporarily. The wet head-cap worn under the hat or bonnet during temporary exposure to the sun is very beneficial, as the evaporation will tend to keep the head cool. In chronic diseases, the case is different. The reaction is so great, if the cold application is prolonged, that permanent congestion is induced, which is exactly the opposite of the condition desired.

FOMENTATION.

This is the application of heat and moisture to some part of the body. In applying the fomentation, a flannel cloth should be folded so as to be of three or four thicknesses, and sufficiently large to cover the parts which it is desirable to treat. If the fomentation is to be applied to the chest, shoulders, or neck, the folded cloth should be about twelve inches square, or twelve by fifteen inches. If it is to be applied over the region of the liver, stomach, or bowels, it should be twelve by eighteen inches. After folding this

cloth, it should be carefully rolled and dipped in very hot water, and should then be applied as hot as the patient can bear, after being wrung quite dry. It is a good plan to leave the ends of the roll dry, so that the cloth can be wrung out warmer; but if the ends of the cloth become wet in the hot water, the attendant can dip his hands in cold water several times while wringing it, and by so doing can apply it hotter than he otherwise could. The hot cloth should be covered with several thicknesses of dry, so as to keep all of the steam in and keep the clothes dry. The fomentation should be continued for fifteen to thirty minutes, the cloths being reapplied every five or ten minutes. The hot fomentation should always be followed immediately with the application of a cold wet cloth to the part, which should be allowed to remain four or five minutes. In some cases, it will be best to alternate the hot cloth with the cold two or three times, always beginning with the hot and ending with the cold. As a general thing, hot fomentations should not be continued more than twenty-five minutes without alternating with the cold wet cloth, except in cases of severe pain, such as pleurisy, etc.

Fomentations are specially adapted to chronic congestions of the liver, spleen, stomach, and, in fact, to all inflammations attended with much pain and little heat, whether chronic or acute. It is also well suited to all visceral congestions,

or rheumatic affections, unattended with fever, and to rigid, torpid, or contracted muscles, and local pains, aches, cramps, etc., when fever is not present. In pneumonia and pleurisy, it is thought by some of the best hygienic physicians that the hot fomentation should be applied to the back and shoulders with cool or cold applications in front, over the seat of the pain. Others apply the hot cloths immediately over the location of the pain, alternating, after twenty-five or thirty minutes, with cold. This method is found to be very successful. In case the patient is nervous, the prolonged warm fomentation is sometimes better than the hot, and may be continued two or three hours.

The following report of a case in my own practice will show how effectual fomentations are in relieving pain and reducing inflammation. I was traveling in Yolo Co., Cal., in the fall of 1872. In passing the residence of an acquaintance, I was induced to stop for the night. After remaining in the house for a short time, my attention was attracted by groans in an adjoining room; and in answer to inquiries I learned that they came from the hired man, who was very sick—so sick that he could not breathe without groaning with pain—and that he had employed a drug doctor, who had attended him for a week, but that he was growing worse very fast. On examination I found that the patient was taking

five kinds of medicine, and that a fly blister as large as a man's hand had been raised; yet so severe was the pleurisy pain that the patient was not aware of the blister, and it had been nearly a day since it was applied. I applied hot fomentations for nearly an hour, alternating with cold once or twice in the meantime, at the end of which time the patient was so far eased from the pain as to sleep well, which he had been unable to do for several days and nights previous. In the morning he had no pain other than that caused by the blister. The doctor had given sweet spirits of niter, nitric acid, turpentine, and nine other drugs and mixtures during the six days he had treated him; and, as a result, the patient was nearly drugged to death. I treated him hygienically for six days, at the end of which time he was out of danger.

THE HEAD-BATH.

This bath may be administered by pouring water on the head, or by lying on the back with the back or crown of the head in a basin of water. The object of this bath is to cool the head more effectually than can be done by wet cloths. The head-bath should be continued only until the head has been sufficiently cooled. It may be administered by pouring a stream of water from a dipper or pitcher, applying the stream principally to the temples and back part and base of the head.

The water may be tepid to commence with, and by the end of the process, which should last eight or ten minutes, it will be quite cool. The head will usually be greatly relieved. The pouring head-bath is applicable to epilepsy, hysteria, delirium tremens, and diseases that are attended with determination of blood to the head. In many cases of threatened fever, the fever may be averted by the pouring head-bath of cold water applied to the temples and back of head and neck, two or three minutes at a time every ten or fifteen minutes for two or three hours. In cases of brain fever, the head-bath should be applied quite hot for five minutes at a time, with cool applications for two or three minutes immediately following. Brain fever may be treated by hot fomentations full as well as by the hot pouring-bath. When treated with fomentations, the cloths should be kept as hot as the patient can bear, and should be applied to the whole scalp, and back and sides of the neck. Cold or cool applications should be made after every form of hot bath or hot application, so as to cool the parts to which heat had been previously applied. The hot head-bath or hot fomentations to the head, neck, and spine, followed by cold applications to the same parts as previously directed, is the proper treatment for cerebro-spinal meningitis, or spotted fever.

THE ARM-BATH.

This bath is simply the local application of water to the arm. It may be taken either by holding the arm in water, or by holding it under a falling stream of water, or by applying wet cloths. Ulcers, chronic swellings, wounds, bruises, sprains, and inflammations of the arm are greatly benefited by the use of this bath. Sometimes, in the case of wounds and bruises, the inflammation becomes very intense, the part swelling to more than twice its natural size, and becoming intensely hot; such cases can be brought under perfect control by the cold arm-bath. No one need fear taking cold in an inflamed wound by holding the part in cold water; for so long as any inflammation or preternatural heat remains, just so long there is no danger of taking cold by applying cold water to the inflamed part.

THE LEG-BATH.

This bath is useful in treating all chronic swellings of the limbs and joints, be they caused by gout, rheumatism, or by the use of mercury. It is also excellent for old ulcers, bruises, and wounds, and for headache and toothache. If drugging, bleeding, or blistering is resorted to in rheumatic affections, there is great danger of the removal of the disease to the membranes of the heart, brain, stomach, lungs, and other membranes

of the body ; while there is no danger whatever in using water on the parts affected, if proper attention is paid to the general conditions of the system by living hygienically. In very painful affections of the leg, the warm bath should be administered for a few minutes before the cold application.

THE EYE AND EAR-BATH.

Whenever the eye or ear is affected by any inflammatory disease, wet cloths of a temperature the most agreeable should be applied to them, or the water may be applied by a gentle shower bath, or by pouring, or the eyes may be held open in clear, soft water. In severe inflammations of either of these organs, hot fomentations, alternated with cold applications, will be found beneficial. If gatherings form and break in the ear, it should be syringed out with tepid water.

THE NASAL-BATH.

All cases of catarrh, or inflammation of the mucous membrane of the nose, will receive more or less benefit by drawing cool or tepid water into the nose. In cases of bleeding at the nose, the coldest water should be used, and should also be applied to the back of the neck and head.

THE ELECTRIC-BATH.

This is the application of electricity in connection with some form of bath. This bath is very useful in treating the sick, many forms of disease yielding to its potent influences that cannot be affected by any other form of treatment. The electric-bath can only be safely administered by an experienced operator, and therefore cannot become very popular in home practice. Most health institutions use the electric-bath, and it is found to be especially beneficial in treating rheumatism, both acute and chronic, gout, sciatica, paralysis, constipation, piles, fevers, tumors, dyspepsia, neuralgia, liver complaints, and in eliminating mineral poisons from the system.

REFRIGERATIONS.

Hygienic physicians make use of cold water, ice, and various freezing mixtures, as refrigerators. Cold water and ice are used in reducing local swellings and inflammations. In the first stages of severe inflammation of the throat or any of its organs, ice-water or bits of ice held in the mouth or gargled in the throat is one of the best of remedies. A cold compress should be kept upon the throat, and the feet should be placed in hot water at the same time. Many suffering with croup, diphtheria, quinsy, acute laryngitis, malignant scarlatina, or putrid sore throat, have found

speedy relief by these applications, who must otherwise have died. The best freezing mixture is made of equal parts of pounded ice and common salt, or of two parts of snow and one of salt. This should be applied to the part which it is desirable to freeze. If ice or snow cannot be obtained, rhigoline applied in the form of fine spray will freeze the parts by its rapid evaporation.

Felons and cancers may be arrested in their growth by frequent freezing, and small cancers may be destroyed and removed by absorption if repeatedly frozen. No serious injury will follow these applications of the freezing mixtures if the thawing-out process is properly managed. The frozen parts should be thawed by applying snow, pounded ice, or cloths wet in the coldest water, until all pain or smarting has ceased, and the part is restored to its natural condition. The part should not be bent or pressed while in the frozen condition, as that would break the tissues, and cause soreness of the part. Refrigerations are very useful for the purpose of arresting hemorrhage.

In applying ice or ice-water to the spine, it is best to use long, narrow, rubber bags. They should be from two to three inches wide, and from fourteen to twenty inches long. These may be filled with ice-water or pounded ice, and then applied to the back along either side of the spine. Cold applied to the spine in this manner will often bring a person safely out of a conges-

tive chill when everything else fails. These cold applications to the spine are very beneficial in treating inflammation of the brain, convulsions, epilepsy, paralysis, inflammation of the stomach, kidneys, and uterus, diarrhea, and dysentery.

WATER DRINKING.

Soft water is by far the most preferable drink that a human being can use. As a general rule, the sense of thirst should be the guide both in sickness and health as to time of drinking and amount to be taken. If, however, the person is very thirsty, he should drink very slowly; or if he is very warm from exercise or artificial heat, he should not only drink very slowly, but should also drink very moderately. Ice-water, if drunk, should be taken very cautiously. Many persons induce serious diseases by drinking large quantities of ice-water when very warm from exercise. Drinks of all kinds should be abstained from at meals. Water drinking at proper times and in proper quantities subdues morbid cravings, cools the heat of fever, relieves internal congestions, allays inflammation, and aids in purifying the blood and in regulating the circulation. In all inflammatory and febrile diseases, cool water may be taken until the patient is satisfied. If the patient is strong and has a high fever, he may drink freely of cold water; but if weak, with low circulation, the water should not be cold, and should be taken in very small quantities at a

time, yet it may be taken very often. If the patient is too weak to rise to drink, he should suck the water through a straw or something similar. If the lips and tongue are cracked, as is often the case in typhoid fever, a wet cloth should be constantly applied to them.

WATER EMETICS.

There is no necessity for taking any animal, vegetable, or mineral poison for the purpose of relieving the stomach of any morbid or injurious matter that it may contain. A far better way to accomplish this result is to drink copiously of warm water, filling the stomach unless vomiting is sooner induced. After drinking all the water the stomach will hold, tickle the throat with a feather or the finger, and vomiting will be speedily induced. In this manner the stomach may be freed of its contents without that retching, straining, and cramping which usually occur in connection with vomiting induced by drugs.

CLYSTERS OR ENEMAS.

Cathartics and purging poisons of all kinds should be religiously abstained from, for they are not only wholly unnecessary, but they are also positively injurious. Clysters or enemas of warm water are just as efficient in cleansing the bowels of fecal accumulations, and not only so, but it can be done much quicker with clysters than

with drugs and medicines in the form of powders and pills, and without any of the pain which accompanies the violent purging produced by drugs. To free the bowels of obstructions, inject into them as much tepid water as they can receive. This is best done with a rubber syringe.* Small quantities of cold water should be injected into them and retained, in cases of excessive hemorrhage of the bowels. In the stage of collapse, when the surface becomes cold, as is often the case in cholera, copious injections of water as warm as the patient can bear should be administered.

THE HOT-AIR-BATH.

This is simply the application of dry heat to the surface of the body by means of hot air. It is very useful when it is desired to sweat the patient. This bath is very easily administered. The patient is seated in a chair with a large, thick sheet or blanket thrown around him, so as to completely envelop both him and the chair on which he sits, with the exception of his head. The blanket must fit closely about his neck, and must lie close to the floor, so as to retain all the heat. After wetting the patient's head with cold water, a cold, wet cloth should be applied to it. A lighted spirit lamp, carefully guarded, should now be placed under the sheet. A cup of burn-

* The Fountain Syringe is the best. It is for sale at the office of the HEALTH REFORMER, Battle Creek, Michigan. Price by mail, post-paid, three dollars.

ing alcohol set in a basin of water, and placed between his feet or under the chair, which should have a wooden seat, is the safest method. In a few moments sufficient heat is generated to cause a profuse perspiration.

On leaving the hot-air-bath the patient should take a cool sponge-bath, or some other light, cool bath, and wipe dry, rubbing himself well with the naked hand. This bath can be administered to feeble persons in their bed by having a light frame-work of hoops to elevate the bed-clothes. The hot-air bath is indicated in bilious and dropsical affections, also in all cases of plethora, obesity, and grossness. It is very useful also in removing a recent cold by inducing an active and increased superficial circulation, which at once relieves the congested organ.

THE VAPOR-BATH.

A very good steam-bath can be taken in a cane-seat chair, with blankets arranged as directed for taking the hot-air-bath. After the patient is properly arranged in his chair, a pan of hot water should be placed under the chair, into which hot bricks, irons, or stones, should be placed from time to time. These will cause the immediate generation of a large amount of steam.

Another very good way is to have a piece of rubber or tin tubing, one end of which fits the spout of the tea-kettle, which should contain boiling water. The other end of the tubing should

be placed under the blanket with which the patient is enveloped. The vapor-bath is applicable in all cases to which the hot-air bath is adapted; viz., in all cases, when the patient is not much weakened, in which it is desired to remove obstructions, grossness, or dropsical accumulations, or to promote absorption of adipose matter, or to remove a recent cold. This is a most excellent bath for rheumatic affections. Like all other hot baths, the vapor-bath should be immediately followed by some form of cool bath, after which the dry rubbing-sheet and dry-hand rubbing should be applied.

COOL - AIR - BATH.

The cool-air bath is useful to allay nervousness, and to induce sleep. If after retiring for the night a person is restless and nervous, and cannot sleep, he should rise and take a cool sponge-bath; if it cannot be conveniently done, he should throw open the bed to air, then remove his night garments and walk his room for a few minutes, rubbing himself gently at the same time. This he may continue for three to fifteen minutes, according to the temperature of the air, being careful to avoid chilling. He should then resume his night clothes and return to his bed, and in nine cases out of ten he will drop immediately to sleep; and, if undisturbed, will sleep several hours.

THE SUN-BATH.

The sun is the great source of life to both the vegetable and animal kingdoms. In fact, all the forces of which we have any knowledge, originate in the sun. Without its influence, no plant or animal could long survive. One of the chief reasons why women and children are more feeble and sickly than men is because they are less in the sunshine than are the men. If the nude surface of every human being were exposed daily to the rays of the sun for thirty minutes, the result would be that the race would in a few years become possessed of twice the constitutional power and vigor they now have. All would be hardier, and many who are now invalids would soon become strong and healthy. Health institutes usually have rooms for sun-baths arranged so that the rays of the sun fall through a window in the roof of the room so as to strike the naked body of the patient as he reclines on a cot. The sun's rays should not fall on the patient's head, and the room should be well ventilated, although a draft of air should not be allowed to strike the patient. The patient should rub his body well with the dry hand while taking the bath. The sun-bath may be limited to five minutes, or it may be prolonged to thirty or forty minutes; all depends upon the strength and conditions of the patient. He should not become fatigued nor chilly, nor should he perspire much unless he is

dropsical or gross, in either of which cases sweating would be beneficial. The sun-bath is adapted to scrofulous cases, torpidity of the skin, weak and flaccid muscles, chlorosis, amenorrhea, deficient superficial circulation, dyspepsia, defective circulation, and consumption. Chronic patients who have always lived in-doors should, if possible, take sun-baths daily, no matter what their ailment.

HAND-RUBBING.

Hand-rubbings have been often spoken of in the preceding pages. They consist of a brisk rubbing of all parts of the body with the dry hand. A soft flesh-brush, towel, or sponge, is frequently used, but the bare hand is better. The patient, if able, should stand while the attendant vigorously rubs the entire surface of the body until the skin is flushed and the surface thoroughly warm. Feeble patients may be rubbed ten or fifteen minutes while lying in bed, the hand being introduced under the bed clothing if there is danger of the patient being chilled by the removal of the clothing. The dry-hand rub is well adapted to patients who are bedridden, or are extremely emaciated, or who are too feeble to endure the exercise required in taking a water bath. Vigorous hand-rubbings promote the superficial circulation, while gentle, light rubbings, soothe the nerves and quiet the patient if he is restless.

MOVEMENTS.

Without exercise, there can be no health. Many invalids are made such for want of proper exercise; and especially is this the case with many of the invalid wives and daughters of the wealthy. Brought up to the belief that labor is a disgrace, they spend much of their time over the yellow-covered literature of the day, and do not take sufficient exercise to keep healthy.

Movements are beneficial to all patients who have become diseased through lack of exercise. There are three classes of movements adapted to the requirements of patients: 1. The active, or those which are executed by the patient; 2. The passive, or those which are executed by an assistant or operator; 3. The combined, or those in which both the patient and the operator are active. They are local or general according as they are applied to a part, or the whole, of the body.

Movements, or exercise, increase and regulate the circulation, improve digestion, and tone up the entire system. They strengthen the weak muscles; restore paralyzed limbs, overcome deformity and contraction of the muscles. So universal is the acknowledgment of the fact that movements are a powerful hygienic and remedial agent, that large cures have been established in several countries, where invalids are successfully

treated and cured by this agency alone. In Sweden there are four such institutions ; and as it was in Sweden that this system of treating the sick originated, it has received the name of the Swedish Movement Cure.

Patients who are too feeble to take active exercise, require passive or combined movements. In giving the movements, the operator should endeavor to bring into action all the voluntary muscles. This may be done by imitating the various natural movements of the limbs and the body, in which case the patient should offer slight resistance to the efforts of the operator ; or the operator may knead the flesh, and roll it gently under the hand, or percuss it gently with either the flat or edge of the hand.

There is, however, no exercise so promotive of health as out-door work. All other movements should be considered as inferior, and only to be tolerated until the patient is able to take exercise in the open air, at some kind of labor. The reason why labor is so much more conducive to health than is any other kind of exercise, is because the mind has an object before it, and is consequently occupied.

THE TURKISH-BATH.

The Turkish-bath, as administered in oriental countries, is a valuable bath in rheumatic and bilious affections. It is a very warm, moist air-bath, being in fact a hot-air and vapor-bath combined, the air of the room being densely charged with vapor by pouring water upon hot stones. The temperature is at the same time raised to between 122° and 145° . The patient is kept in this room until he perspires freely, and he is then allowed to pass directly to a cool full-bath.

The so-called Turkish-baths of America are simply hot-air-baths, and are extremely injurious to most patients on account of the extreme temperature. As given in New York and Brooklyn, they cause, if frequently indulged in, serious brain congestions. Many who have repeatedly taken the Americanized Turkish-bath have thereby so complicated their difficulties as to be beyond help. The Turkish-bath is useful in removing local congestions—those of the head excepted—in clearing the pores, and in inducing a healthy condition of the skin and mucous membranes, in eliminating noxious matters from the blood, and in imparting a sense of elasticity and vigor to the system. Hence, it is recommended in bilious affections, in dropsy originating in kidney or liver complaint, in rheumatism, in gout, in many forms of skin disease, in all forms of grossness, and all cases of

obesity when unaccompanied with plethora. It is injurious in all congestions of the brain, in all diseases of the heart, and vessels attended with fatty degeneracy, and in all diseases of the nerve centers, or where there is a tendency to dizziness or syneope, and in advanced life.

Women who are *enceinte* should not take this bath, neither should those who are suffering with monthly illness.

There is no form of disease for which the Turkish-bath is beneficial that will not derive equal benefit from the hot-air and vapor-baths previously described.

THE SAND-BATH.

In many countries the sand-bath is given for the purpose of inducing a sweat. The patient is taken to a bed of hot sand on the margin of a stream or body of water, and is covered with the sand until he sweats freely, after which he plunges into the cool water and washes off briskly, and then dresses, feeling much invigorated, and quite relieved of any aches and pains he may previously have suffered. Some benefit may be derived from this bath in certain diseases in which it is desirable to promote depuration by the skin, yet the wet-sheet-pack, or the dry-pack, or the vapor, or hot-air-bath, will be found to confer much greater benefits.

THE MUD-BATH.

In some countries, fevers are treated by immersing the patient, all but his face, in cool mud. There can be no doubt but this form of bath will be found quite efficacious, yet clean water will be found still more so.

THE ANIMAL-BATH.

This so-called bath consists in wrapping the body, or some part thereof, in the fresh skin of an animal or in binding the flesh of a freshly slaughtered animal about the parts affected. These applications are found to be quite soothing in certain diseases, but not more so than the cool or tepid compress; therefore, possess no special merits.

THE OIL-BATH.

The oil-bath consists in giving the patient an anointing with oil of some kind, which is well rubbed in with the naked hand. This bath will soften the skin, and in those who are aged and feeble, with low temperature, it fills the pores of the skin, thereby preventing the evaporation and consequent loss of heat. Many hygienic physicians make use of the oil-bath for the purposes above mentioned, yet if wet and dry hand rubbings are properly applied, and a sufficiency of clothing worn, the same ends may be accomplished

much better without the oil than with it; for by filling the pores of the skin, depuration is obstructed.

THE INDIAN SWEAT HOUSE.

The Digger Indians, of California, are in the habit of treating rheumatism, and all bilious affections, by sweating the patient. To do this, they have in all their villages or *rancheries* what may be termed a sweat house. It is made as follows: A circular excavation is made in the earth from twelve to twenty feet in diameter and about two feet deep. Poles are set at the outer edges of this excavation in such a manner that the tops meet over the center, each pole standing at an angle of about forty-five degrees. Over these poles there is laid a coating of brush, straw, and earth. There is a hole left in the roof midway between the ground and the peak, about twenty inches square, through which they pass in and out of the house.

When it is desired to give or take a sweat, the Indian builds a fire in the center of the sweat house, the smoke passing out through the above-mentioned opening. He then removes his garments, and in a short time is in a profuse perspiration.

A few years since, it was customary for all the members of the Indian village to take a sweat every few weeks, in which case fire was unnecessary. As many as could be huddled together

would enter, and in a few moments their bodies would generate sufficient heat to induce profuse perspiration. Some of these houses would hold from fifty to a hundred persons.

The Chippewa and other Indian tribes of Michigan, for many years, have used sweat-baths in treating fevers and congestions. They place poles in the ground in such a position that, when covered with skins or blankets, a conical tent is formed about six feet in high with a base of about six feet. The patient is then placed in this tent, also a pail of water into which red-hot stones are placed, thus forming a most perfect vapor-bath.

The above description has not been given with the idea of recommending the use of the sweat house, but to show that the plan of depurating the system through the skin in treating certain forms of disease is well understood and practiced by some of the lowest classes of human beings.

MINERAL SPRINGS.

There is resting in the minds of the majority of civilized human beings the idea that if pure water is beneficial in the treatment of disease, then water which contains some mineral must be still more beneficial when applied either externally or internally. Hence, in all civilized countries, most springs that are known to contain a variety of mineral impurities are resorted to by hundreds, and many, by thousands, of invalids yearly who

drink of, and bathe in, the impure water with the expectation that the impurities of the water will impart to them health and vigor. There never was a greater mistake made than this, yet there are many who, after a few weeks' or months' stay at these springs, leave with health apparently improved. They suppose that all is due to the medicinal properties of the water, and, consequently, they advise every invalid they meet to go and try the springs. Could the same invalids foresee the ills that they must suffer in after years as the result of a few months' use of mineral water, they would be extremely wary how they either use or advise others to use such water.

No benefit is received from the use of mineral water that might not be received in still greater amount by the use of pure water. It is true that many who drink of, and bathe in, mineral water experience, after a short time, a great change in their feelings and symptoms, and think themselves better; but that this change is produced in whole, or even in part, by the mineral substances contained in the water is by no means certain; on the other hand, it is extremely doubtful whether this is the case, for the reason that mineral water contains no substances that are not administered freely by every drug physician for those very complaints for which the patient visits the springs, and, in most cases, substances identical in character had been taken freely by the patient without benefit. This fact and the additional

fact that pure water, when properly applied in the treatment of similar diseases, always results in lasting benefit, and the still further additional fact that nearly every patient who visits mineral springs has not been in the habit of using water sufficiently often for the common purposes of health, indicate that the minerals in the water did not make it any more efficacious. When we add to these the fact that whatever change can be wrought in a patient's mind to inspire hope, expectation, and confidence, will always be of great benefit, and that the change of scenery and surroundings does inspire these feelings in the minds of ninety-nine out of every one hundred who visit such places, we must conclude that the change that takes place in their cases is owing to the changes that have taken place in their material surroundings and in their habits of life; and not only this, but that if they had used pure, soft water as freely and in the same manner that they did the mineral water, they would have derived much greater benefit from its use.

We are strengthened in this conclusion by the fact that nearly every patient who uses mineral water freely for any length of time, finds himself afflicted with some serious chronic disease which is directly traceable to its use for its origin.

Let not the reader gather from the foregoing remarks the idea that mineral waters do not occasion what the physicians call a "medicinal effect,"

for they do, and in the same way that all medicines do ; but this “ medicinal effect,” as we have shown in Part II., is nothing more nor less than vital resistance, or an effort on the part of the vital organism to expel whatever substance occasioned or produced the “ medicinal effect.” Now, since all such efforts waste the patient’s vitality, and in the end weaken his constitutional vigor, they are to be avoided at all times ; and to do this, it is necessary to avoid receiving into our systems, or in any way using, any of those substances that occasion such effects, even though they be in mineral waters.

It is true that impure water may be used for bathing purposes with less injury to the patient than will occur if he drinks the same water ; yet, since water, and whatever substance it may hold in solution, is freely absorbed through the pores of the skin, it is far better that we should use nothing but pure, soft water for bathing purposes.

M E D I C A T E D - B A T H S .

The great popularity of mineral springs, together with the fact that in the minds of most people there exists an idea that mineral water is more healthful for the sick than that which is pure, has led to the preparation of artificially medicated baths in many cities.

In preparing these, the physician strives to imitate nature in some instances by producing min-

eralized, saline, alkaline, and acid baths, while others have sought to improve the mineral-bath by adding thereto oleaginous, spirituous, and gaseous compounds and fumegations, apparently thinking that if they could succeed in producing a bath that should at once contain some of the supposed infernal stench of pandemonium, as well as some of the impurities of this earth, that they had indeed succeeded in producing an "antidote" to disease in all its multitudinous forms. Absurd as is the idea of such baths being capable of restoring health to the sick, nevertheless hundreds of them have been prepared, and what will doubtless strike the reader as still more absurd, to save expense, the same water in most cases was used over and over again in treating different patients suffering with various diseases. This has been done by educated men, who professed to be the conservators of the health of the people. It is unnecessary to say anything further against the use of these baths, as all that has been said concerning the impropriety of using the water of mineral springs applies with equal force to the medicated baths.

The following are a few of the many medicated baths that are in use at the present time, both in this country and in Europe:—

THE ACID-BATH is made by adding from eight ounces to two pounds of muriatic acid to sixty-six gallons of water.

THE ALKALINE-BATH, by adding from eight

to sixteen ounces of pearlash to sixty-six gallons of water.

THE BORAX-BATH, by adding four ounces of borax and three fluid ounces of glycerine to thirty gallons of hot water.

THE CONIUM AND STARCH-BATH, by adding one ounce of extract of conium and one pound of pulverized starch to thirty gallons of hot water.

THE CREOSOTE-BATH, by adding three fluid drachms of creosote and four fluid ounces of glycerine to thirty gallons of hot water.

THE POTASSIUM-SULPHURET-BATH, by adding four ounces of potassium sulphuret to sixty gallons of water.

THE NITRO-HYDROCHLORIC-ACID-BATH, by adding twelve ounces of nitric acid and one ounce of hydrochloric acid to thirty gallons of hot water.

THE GELATINOUS-BATH, by adding glue to the water.

THE SULPHUR-BATH, by adding two ounces of diluted sulphuric acid and eight ounces of sulphuret of potassium to thirty gallons of water.

THE TAN-BATH, by boiling two or three handfuls of ground oak bark in two or three quarts of water, and adding the liquid to the bath.

THE ARSENICAL-BATH, by adding a preparation of arsenious acid, nitrate of soda, carbonate of soda, sulphate of soda, and salt, with sufficient water for a bath.

All of the preceding medicated baths are in

constant use in many large cities, yet they are all not only useless so far as the medicating of them is concerned, but they are positively injurious to the human system, and should never be used.

DIET FOR THE SICK.

Food for the sick should be nutritious, easy of digestion, and free from oily or fatty substances. The following articles should be religiously abstained from : pork, fats, butter, salted or smoked meats, and in many cases, all kinds of meats, salt fish, and most kinds of fresh fish, lobsters, clams, and oysters, rich gravies, and greasy soups, mustard, pepper, spices of all kinds, vinegar, pickles, raw vegetables of all kinds, cheese, rich pastry and puddings, oily nuts, tea, coffee, condiments of every kind, rich preserves, hard boiled eggs, fried eggs, and fried food of all kinds, distilled and fermented liquors of every kind, and whatever else impairs or injures digestion.

If the patient is suffering with severe acute disease, he should take very little food, and that should be prepared in as plain and simple a manner as possible. This class of patients should subsist upon gruel made from some kind of meal ; such as wheat, oat, corn, or barley meal. It may be given without milk, or with the addition of one-third milk. Milk toast, dry toast, boiled rice, wheat-meal and oat-meal mush, ripe fruit, either cooked or uncooked, baked apples, etc., are all good

food for the sick ; but they should be taken in small quantities by those who are suffering with febrile diseases.

As a general rule, chronic invalids will find it far better for their health to partake of food but twice in the twenty-four hours than to eat oftener. They should breakfast at from seven to half-past eight, A. M., and dine at from half-past one to three, P. M. Not more than three or four varieties of food should be eaten at one meal, and these should generally be preparations of some kind of grain, fruit, or vegetable. Fresh meat, such as beef, mutton, venison, etc., may be used occasionally in small quantities. Milk and cream may be sparingly used in cooking. Concentrated foods should not be used. They will not properly sustain life. Unbolted wheat-meal or oat-meal bread, mush, and cracked wheat, corn-meal bread, mush, and gruel, boiled rice, pearl barley, potatoes, apples, baked, raw or stewed, are all staple articles, and may be used freely ; while green corn, hulled corn, parched corn, green and ripe peas and beans, and many other fruits, grains, and vegetables, may be frequently used.

There are, however, some forms of dyspepsia in which the unbolted wheat meal, corn meal, cracked wheat, and oaten grits, will prove very irritating, and cannot be used. This is the case in ulcerated conditions of the duodenum and rectum. Sometimes the liver, when in a diseased condition, excretes an acrid, corroding bile which

corrodes the duodenum, or upper portion of the small intestine, causing ulceration of its mucous membrane. Then, again, the rectum sometimes becomes ulcerated, the ulcers being caused by piles. In either of these cases, unbolted wheat meal, cracked wheat, and other coarse articles of diet, will be very apt to irritate the ulcerated surface and thereby increase the pain and also the purulent discharges.

Local quiet is very essential to the healing of the ulcerated surface of the intestines, therefore the diet, in these cases, should consist of a very small amount of farinaceous food with mealy potatoes, baked apples, grapes, and most kinds of subacid fruits. Arrowroot, tapioca, etc., may be used. Those who are dyspeptic should be careful to avoid all those articles of food which they have found to be injurious to them. They must not overeat, and should not usually eat both fruits and vegetables at the same meal. If their cases are very bad, they should use mostly dry food, such as dry toast, graham crackers, and parched corn, all of which should be thoroughly masticated before being swallowed.

Patients who are recovering from a severe acute disease usually have voracious appetites. Such persons will have to be extremely careful not to overeat, and not to indulge their appetites by using hurtful substances. Thousands sacrifice their lives yearly by not properly restraining

their appetites while they are weak and unable to use much food.

Persons who have been accustomed to the so-called good things of this life will, without doubt, find it to be quite a trial to restrict themselves to a strictly hygienic diet; yet if they can become accustomed to such a diet, they will be amply rewarded in the end by improved health and strength. It is true, however, that many who have abjured drugs, and who have discontinued the use of flesh-meat, tea, coffee, etc., find themselves weaker than before making this change in their diet. I have known several such persons, and they have brought their experience forward as proof of the unsoundness of the vegetarian theory. But in every case, when inquiry was made, it was found that mistakes had been made. In some cases, they had suddenly discontinued the use of articles that were stimulating, and restricted themselves to a meager diet; in other cases, they did not cook the food so as to make it relish; in still other cases, they substituted large quantities of sugar and cream or butter in place of the meat they formerly used. Such practice is all wrong. Break off from the use of meat gradually, and supply its place with good hygienic food, well cooked, and in good variety. Never overwork when making these changes, but graduate the work to the strength. Be sure to secure good unleavened bread.

GENERAL RULES FOR NURSING THE SICK.

1. Begin in season. Do not let a sick person work, or go uncared for until he is compelled to take to his bed, before beginning to care for him.

2. As soon as a person begins to feel unwell, ascertain, if possible, what the cause is and remove it. This may be all that is required.

3. In most cases of acute disease, at the very first appearance of the disease, a tepid or warm bath will be beneficial by unclogging the skin and causing a slight determination of blood to the surface, thereby relieving any congestion of the internal organs. A tepid enema will usually afford relief by removing obstructions from the bowels; and a warm water emetic will relieve the stomach of any unusable matters it may contain, thereby removing nausea. Fasting for one or two meals will do more to promote depuration than anything taken internally can do; and the rest and quiet thus obtained will often be all that the patient needs.

4. Preternatural heat can be reduced by applying either cold, cool, or tepid water, or wet cloths; and warmth can be induced by hot cloths, hot bricks, or by bottles or jugs of hot water, etc.

5. Always enjoin perfect quiet in the sick chamber, and let the patient sleep all he will.

6. Never allow any but the nurse to see or converse with patients who are very low. Many have been sacrificed by not observing this rule.

7. Never urge a fever patient to eat.

8. Keep the sick room well ventilated, day and night, but do not allow a current of air to strike the patient.

9. Never whisper within the hearing of the sick, for if you do, they will be very apt to think that you are talking about them, and will become anxious.

10. Never indulge in sad or melancholy conversation with, or in the presence of, the sick. Always appear cheerful yourself, and endeavor to keep them cheerful.

11. Never allow any fecal or urinary matter, nor any other foul substance, to remain in the room with the sick for a moment.

12. Change or air the patient's clothes and bedding, daily.

13. Always keep the bowels free, the feet warm, the head cool, and the entire surface of the body as near the temperature of healthy persons as possible.

14. As soon as they are able to walk about, patients should be encouraged to take exercise in the open air.

15. Always see that the patient's limbs are clad as warmly as the body, that the shoes are loose, that the garments are loose about the waist, and that corsets, stays, chignons, and all other injurious fashionable appendages are laid aside.

16. Never give very cold nor prolonged treatment to very weak or nervous patients.

PART IV.

DISEASES AND THEIR TREATMENT.

GENERAL PROPOSITIONS.

MANY well-meaning persons think that water treatment can be administered just as successfully without a knowledge of the human system, and without a knowledge of why and how water is a remedial agent, as with it. This, however, is a very great mistake, as many a patient has found to his sorrow. There is no system of medicine that is worthy of, or that demands, more careful study than does the hygienic system. In fact, a knowledge of hygiene is, or should be, the basis of all medical knowledge.

There are three things to be considered by those who would be successful in the management of the sick.

First, the nature of disease must be understood. This subject has been fully explained in Part II., to which the reader is referred. Therefore, without repeating the arguments and evidences there introduced, it will be sufficient to state that disease is remedial effort, is vital action,

is an effort on the part of nature, *i. e.*, the organism, to expel impurities, or poisons and unusable substances, from the system, and to overcome obstructions to the circulation ; consequently, in all cases in which change of organic structure has not taken place, disease is self-limited in its nature. Therefore, in treating the sick, we should seek to assist nature in her efforts instead of seeking, as do many physicians, to stop her efforts by breaking up the disease. Since disease is vital action, it follows that if we break up or "cure" disease, we stop vital action. This should be avoided if possible, for the cessation of vital action is death.

One of the chief reasons why so few of the sick recover is, the physicians give them medicines to "cure" their diseases, and this is effectually accomplished by the patient's expending his vitality in expelling the medicine, until there is not sufficient life force left to carry on the usual life processes, and the patient dies, having been literally "cured" to death.

Instead of endeavoring to stop vital action, we should seek to control and direct it. If one part of the system is inactive, we should strive to induce in it its normal or usual action ; but we should never try to check vital action, except in those cases where the action is so violent as to cause a liability of the destruction of some of the organs, or a disorganization of some of the tissues.

In all the systems of medicine in which drug poisons are administered, the physician seeks to "cure" or stop the diseased action already existing (which is simply an effort to expel impurities already in the system) by giving a drug to induce another diseased action (which is an effort to expel the drug), which he has learned is self-limited (it ceases as soon as the drug is expelled). Instead of doing this, we should ever seek to induce in every part of the organism just those actions which take place when the person is in health. That we cannot do this by administering drugs that make a well person sick is self-evident.

The only way in which it is possible to induce healthy action in a diseased organism is by supplying those conditions on which health is based, and by the employment of those agents which are conducive to the maintenance of health. See Part I.

Secondly, the condition of the patient must be understood, otherwise it will be impossible to tell what it is necessary to do to restore him to health. It is not enough to know that something is wrong, we must know what is wrong if we would remedy the evil; and to know this, it is necessary that we have a knowledge of the location of the various organs of the body, and of the action of each when in health, otherwise we cannot tell with any certainty what organ of the body is diseased; consequently, not knowing the

condition of the patient, whatever we do will be done blindly, and will be just as liable to be wrong as right—to do harm as good.

It is a lack of knowledge as to the location and functions of the various organs of the body that constitutes the great barrier to a correct diagnosis of disease, and to its proper management by people generally. If the reader is not acquainted with these subjects, he should at once obtain some work on physiology and acquaint himself with at least these two branches of the subject. Space will not allow the introduction of much physiology in this work ; yet it is essential that enough be presented to give the reader a correct idea of the location and action of the vital organs, as it is by a comparison of the symptoms manifested in disease with the known action of the organs in health that we are enabled to ascertain the condition of the patient.

Thirdly, the causes of disease must be understood, and such as exist externally or are in the alimentary canal must be removed ; for it is evident that all treatment administered while the cause of the disease is still operating, unless it be for the removing of that cause, is useless.

IMPORTANT INTERNAL ORGANS.

THEIR LOCATION AND FUNCTIONS.

The human body is naturally divided into four cavities, which contain the most important organs of the body.

The first of these cavities is called the cranial cavity because it is within the cranium, or skull. It contains the brain and its membranes, the upper portion of the spinal cord, which is called the medulla oblongata, certain ganglia or little brains, and the commencement of nine pairs of nerves. The brain is in two parts, a greater and lesser brain. The greater brain is called the cerebrum, and is situated in the front and upper portion of the skull, nearly filling it. The smaller brain is called the cerebellum, and is situated in the lower and back portion of the cranial cavity.

It is the function of the brain to think and feel, to recognize the existence and relation of things, and to direct the organs of voluntary motion, using the nerves which originate in the brain and spinal cord as its means of communication with those organs.

The nerves of hearing, seeing, smelling, tasting, and feeling, all originate in the brain. The spinal cord originates within the cranial cavity, and is continued downward through the spinal column, sending off nerves between the joints of the

various vertebral bones. The brain and spinal cord are both surrounded with membranes which may be diseased as well as the substance of the brain and cord. The nerves, arteries, and veins, may be diseased also. The brain and cord and their membranes are liable to inflammation, congestion, the exudation of water or blood, or the formation of pus, to ulcers, tumors, abscesses, and cancers. The nerves of sense and the mucous membrane in which each terminates may be diseased.

Just above the outer angle of the eye and lodged within a depression of the bone that forms the roof of the orbit is situated the lachrymal gland, whose function is to secrete a watery fluid—the tears. There is at the inner corner of each eye a little canal, called the lachrymal canal, which communicates with the nasal duct. The nasal duct is within the bones of the face and nose, and terminates in the lower portion of the nasal cavity. These canals and ducts convey the water from the eyes to the nose. When these ducts become stopped, the tears flow slowly, but constantly.

Passing from the cranial cavity to the mouth, we find the tongue, palate, tonsils, fauces, teeth, salivary glands, all of which are liable to disease. The fauces are the extreme upper portion of the throat.

The tonsils are two glands situated on either

side of the upper portion of the fauces. The tonsils secrete a fluid to moisten the throat. There are six of the salivary glands, whose function it is to secrete saliva. The two largest are situated on each side of the head just in front and a little below the ear. These are called the parotid glands. The two next in size are called the submaxillary glands, and are situated on either side just below and a little in front of the angle of the lower jaw.

The two smallest, called the sublingual glands, are under the tongue, in contact with the lower jaw and near its center. Each of these glands is provided with a duct through which it sends its secretion, the saliva, to the mouth. The salivary glands may be inflamed, as in mumps, the tongue may be inflamed, as in mercurial salivation, the tonsils and fauces, as in quinsy. The principal organs of the throat are the pharynx, the œsophagus, the larynx, trachea, thyroid gland, several lymphatic glands, and blood-vessels.

The pharynx consist of about four and one-half inches of the alimentary canal, commencing immediately back of the mouth. The œsophagus is also a portion of the alimentary canal, and is about nine inches in length, and connects the pharynx with the stomach. This organ lies mostly within the thorax. The larynx is situated between the base of the tongue and the trachea or windpipe. By placing the thumb and

finger on the throat, and at the same time swallowing, there will be felt a hard, cartilaginous tube, which rises as the action of swallowing is performed. This tube is the larynx, and contains the vocal cords, hence it is the organ of voice.

The trachea is the windpipe. It is a cartilaginous tube, about four and one-half inches in length and from three-quarters of an inch to an inch in diameter. It extends from the larynx to the lungs, where it divides into two branches, called the bronchial tubes. The thyroid gland is situated at the upper portion of the trachea. It consists of two lobes placed one each side of this tube. These lobes are connected by a narrow, transverse portion. The function of this gland is unknown.

There is quite a number of the lymphatic glands in the neck. They are principally situated a little beneath the skin, underneath the margin of the lower jaw, and in front of, under, and behind, the ears, also a few at the sides of the neck, just below the collar bone. These glands become inflamed, and abscesses or ulcers are often formed if the person is scrofulous. The thyroid gland is liable to enlargement, as in goiter. The trachea, larynx, and pharynx, are liable to inflammation, as in croup, laryngitis, clergyman's sore throat, putrid sore throat, scarlatina, diphtheria, etc.

The second cavity of the body is inclosed by the ribs, and separated from the abdomen by

a large, thin, flat muscle, called the diaphragm. This cavity is called the thorax, which signifies a coat of mail, which the chest resembles.

The principal organs within the thorax are the heart, lungs, and large blood-vessels. It contains also the pericardium, which is a membrane surrounding the heart, and containing fluid to lubricate it; also the pleura, a membrane that covers the lungs and lines the entire thorax, and also passes between the lungs and attaches to the breast-bone in front, and to the spine, and divides the thorax into two cavities, thereby preventing both lungs from becoming useless, as would otherwise result in case an opening was made into one side of the thorax. The function of the pleura is to secrete a lubricating fluid to moisten and lubricate the organs within the thorax.

The bronchial tubes are the continuation of the trachea after it divides into two branches within the thorax. These again subdivide as they pass into the lungs, and continue to subdivide until by their minute subdivisions and ramifications they form the air-cells of the lungs.

The heart is liable to a change of structure or texture as is seen in organic disease of the heart. It is also liable to functional derangement, as is seen in palpitation and irregularity of pulse. It is also liable to inflammation and to rupture. The pericardium is liable to inflammation, and to adhesion to the heart, and to dropsical effusion, as in dropsy of the heart.

The pleura is liable to inflammation, as in pleurisy, or it may throw out water into the thoracic cavity, as in dropsy of the chest. The substance of the lungs may be inflamed, as in pneumonia, or lung fever, or tubercles and abscesses may form in them as in tubercular consumption.

The mucous membrane of the bronchial tubes and air-cells may be inflamed, as in bronchitis, catarrhal consumption, and lingering consumption. The large arteries are liable to become weakened in places and give rise to blood tumors called aneurisms.

The third cavity is the abdomen. This contains the stomach, liver, spleen, pancreas, kidneys, small intestines, the most of the large intestine, the omentum, mesentery, and peritoneum. The stomach is the principal organ of digestion. It lies immediately behind the front wall of the abdomen under the lower ribs, and a little to the left. When moderately full, it is usually about twelve inches in length and four inches in diameter. The stomach is liable to inflammation or great irritation when anything improper enters it or when food ferments within it, and to become distended with gas, as in flatulency. Its secreting vessels—the gastric follicles—may also become so diseased by overfeeding or improper feeding as to fail in the work of secreting gastric juice, and indigestion or dyspepsia is the result.

The small intestines are that part of the aliment-

ary canal where the most of the nutritive portion of the food is separated from the innutritive portion and absorbed preparatory to entering the circulation. They are about twenty feet in length.

The first nine inches of the small intestine constitute the duodenum. It receives the food from the stomach, and the pancreatic juice, and the bile. After leaving the stomach, the food undergoes further digestion in the duodenum. The duodenum is liable to inflammation, caused by errors in diet, such as overeating or eating improper articles, or from acrid bile.

The next eight or nine feet of the small intestines form the jejunum, from *jejunus*—empty—because usually found empty after death.

The remainder of the small intestines is called the *ilcum*—to twist—because of its numerous convolutions. The small intestines lie in the central part of the abdomen. They are liable to inflammation, colic, and spasmodic contractions.

The large intestine is about five feet in length. It commences on the right side at the lowest part of the abdominal cavity and passes upward to the liver, where it makes a short turn to the left, and passes transversely across the abdomen, passing thence downward along the left side of the abdomen into the pelvis, where it makes a fold upon itself somewhat like the letter Z or S. This fold is called the sigmoid flexure. After making this fold, it passes through the pelvis along the

posterior wall and terminates at the anus. The last portion is called the rectum. The large intestine is liable to acute inflammation, as in dysentery, cholera, etc., and to chronic inflammation, as in diarrhœa, also to hemorrhoidal tumors or piles and ulcers in the lower portion. The intestines, if foul, may contain worms, or they may become torpid, and contain large quantities of hardened fæces, or they may be distended with gas or wind.

The liver lies under the last six ribs on the right side and extends across the central line of the abdomen partially under the ribs on the left side. Its function is to excrete the bile elements from the blood. These are transmitted through the bile ducts to the gall bladder and duodenum. The liver is liable to acute and chronic inflammation, to abscesses, congestion, and to a change of structure. Gall stones may form in the bile ducts and gall bladder.

The pancreas is a gland about six or eight inches in length, one and a half inches broad, and three-fourths of an inch thick. It lies behind the stomach. Its function is to secrete a digestive fluid called the pancreatic juice. This organ is liable to inflammation and tumors.

The kidneys are situated at the back part of the abdominal cavity on either side of the spinal column. The upper portion of the kidneys extends as high as the union of the last rib but

one—the eleventh—with the spinal column.

The kidneys may become inflamed, or gravel may form in them if hard water is used internally.

The peritoneum is the lining membrane of the abdominal cavity. It also covers each organ within the abdomen separately, and binds them all down to the posterior wall of the abdomen, or to the diaphragm above. That portion of the peritoneum which collects the intestines into a convoluted mass is called the mesentery. There is a large double fold of the peritoneum that passes down like an apron in front of the intestines. This is called the omentum.

Within the mesentery there are certain glands called the mesenteric glands, whose function it is to assist in transforming the food into blood, the food being conveyed to them by the lacteal vessels, by which it is absorbed.

The peritoneum secretes a watery fluid to moisten the organs it enshrouds, and to keep them lubricated. When this membrane is inflamed, dropsy of the abdomen is liable to follow. When the mesentery or its glands are inflamed, the work of nutrition is imperfect. Tumors may form in the mesentery. Puerperal or childbed fever is a fever resulting from inflammation of the peritoneum.

The fourth cavity is called the pelvis. It is formed by the pelvic bones, and contains the blad-

der and rectum in males, and, in addition to these, the uterus fallopian tubes and ovaries in females. These organs are liable to inflammation and displacements, which will be treated of hereafter.

CAUSES OF DISEASE.

There are two ways in which disease may be occasioned:—

First, by the introduction of improper substances, commonly known as poisons.

Secondly, by the misrelation or improper use of good things, or hygienic agents.

Of the poisons that may enter the system from without and thus become a cause of disease, the following are among those best known:—

Of inorganic poisons, alkalies, acids, salts, oxides, earths, metals, alcohol, and all other distilled and fermented liquors, poisonous gases, and malarious exhalations. The organic poisons may be of either vegetable or animal origin. Of the vegetable poisons, some of the most common are opium, tobacco, aconite, ipecac, colchicum, quinine, etc.

Of the animal poisons, we may mention the venoms, viruses, infections, cantharides—Spanish flies—castor, musk, etc. All the drugs and medicines of the entire materia medica of all the systems of medicine belong to one or the other of these classes of poisons. Whenever a person is called to treat the sick, he should, if possible, as-

certain whether the disease was caused by the reception of some poison from without, and whether that poison is still entering the system; for it is evident that the most successful way to stop an effort of the system to cast out a poison would be to prevent any more of that poison from entering the system; then, when what had already entered was cast out, the action, or disease, would cease. This shows how it is that diseases are naturally self-limited.

The improper use, or misrelation, or abuse, of hygienic agents, may become a cause of disease by so changing the conditions of the individual that the impurities, or wastes of the body, or broken-down tissues, are retained in the system until it is clogged therewith, and a diseased action is set up for the purpose of expelling them.

A disease of this kind may be caused by insufficiency of air, by defective light, by living in constant shade, by extremes of temperature, by the inordinate use or misapplication of water, by food taken in improper quantities and at improper times, by too little or too much clothing, or clothing improperly adjusted, or by overexercise, indolence, sleeplessness, depressing mental influences, mental shocks, morbid religious sentiments, perverted moral influences, and mechanical injuries. If the misrelation of any of these otherwise hygienic agents is the cause of a dis-

ease, it is evident that, before the patient can recover, that cause must be removed by properly relating all hygienic agents to the system.

THE DIAGNOSIS OF DISEASE.

To write out a set of rules by which every man and woman can determine at sight the nature of every disease to which flesh is heir, is a task that has never yet been accomplished. It is not to be expected that such a set of rules can be given, yet there are a few general principles that may be stated in such a manner that persons of average intelligence can read many of the diseases with which human beings are afflicted, in a manner to know just what ails the patient.

It is by the aggregate and succession of symptoms that a disease is detected, a symptom being any perceptible change that takes place in any organ or function.

It is the plan of this work, not only to give directions for treating disease, but also to give a description of the symptoms manifested in the various diseases and by which the location and nature of each may be known. This will be done by treating of each disease separately; yet, since there are certain general rules for determining disease, it may be well to give these first.

GENERAL RULES FOR DETERMINING DISEASE.

1. When the body is in health, there is a constant occurrence of certain well-known vital manifestations which are called the language of health.

2. When the body is diseased, some or all of the vital functions are disturbed; consequently, the vital manifestations are disturbed, *i. e.*, they differ from those which occur in health. These disturbed vital manifestations are the language of disease, and are called symptoms.

3. It is by noticing that the vital manifestations differ from those that occur in health that we discover that the body or any portion thereof is diseased.

LANGUAGE OF HEALTH.

When the entire body is in health, there is a uniform temperature of all its parts. There is neither chilliness nor sensation of heat, but an unvarying temperature at about 98°. The skin is soft, velvety, and clear. The appetite is not capricious, but relishes plain, wholesome food without requiring that it should be seasoned with condiments. With the regularity of clock-work, it demands a moderate supply of food. The stomach digests the food so easily and so perfectly that after the food is once swallowed,

the individual never thinks or knows anything more concerning it.

The bowels move with regularity and are neither too tight nor too loose. There is no rumbling to be heard in them nor motion felt, except in the act of defecation. The kidneys excrete the urine, which is retained in the bladder without the individual becoming conscious of it until by distention it presses on other organs or stretches its nerves, when cognizance is taken of its condition, and its contents are readily voided by painless micturition.

The circulation is regular, the blood being carried in an even and steady current to all parts of the body. The breathing is full and free and noiseless, the breath is sweet, and the mouth moist and clean. The vital organs all perform their functions in such an easy and perfect manner that the individual would never know by the sense of feeling that he had vital organs. The body is so perfectly maintained that from infancy to adult life it does not cease to grow, and after attaining to adult life it neither increases nor diminishes much in size or weight until it reaches old age. The sleep is undisturbed and refreshing. The senses are all acute, the mind is clear, tranquil, hopeful, and cheerful. The voluntary organs all act promptly to the dictation of the will, all the bodily sensations

are pleasurable, and there is a love for exercise. Such is the language of health.

LANGUAGE OF DISEASE.

When the body is diseased, there will be a disturbance of some or all of the vital manifestations, and to determine the nature and severity of the disease, we must carefully watch the vital manifestations, and note wherein they differ from those which take place in health.

The following manifestations are the language of disease, and some of them always occur when the body is diseased. The temperature of the body may be disturbed by being too high or too low, occasioning chilly sensations, or burning fever. The skin may be dry and husky, and may even crack or scale, or it may lack clearness, being clogged with impurities. The appetite may be craving, or there may be loss of appetite. It may be capricious, and relish only highly-seasoned food, or it may call for stimulating food and drink. The stomach may act in a disturbed manner; there may be either cramping, heart-burn, nausea, vomiting, eructations, heat, or pain.

The bowels may be irregular, being either constipated or loose, with either bilious, watery, bloody, or slimy discharges, or wind may accumulate in them.

The kidneys may excrete a thick, stringy substance with the urine, or they may fail to excrete

a proper amount of urine, or they may excrete too great a supply. The bladder may refuse to retain but a small amount of urine, which may be voided with great difficulty and pain, the urine being hot; or there may be failure to retain the urine, or there may be an undue retention of it, causing great pain.

The circulation may be disturbed, as indicated by the pulse, which may be too high or too low, too fast or too slow, too strong or too weak; it may be full, or wiry, or too frequent, or irregular. The breathing may be oppressed, or the breath may be short, or it may have an offensive smell. There may be mucous or slimy discharges from the throat or lungs; the mouth may taste bad, or may be dry, or the tongue may be coated. There may be wasting of the body, or an abnormal filling up with fat. Some of the senses may be faulty, or the mind may manifest unusual activity, or stupidity, or insanity, or despondency. There may be involuntary contractions of the muscles, amounting to cramp, spasms, or even convulsions. The bodily sensations may be unpleasant, and even painful. The sleep may be disturbed and unrefreshing, the individual being restless or nervous. There may be a feeling of listlessness, and an antipathy against taking exercise. Such manifestations as the foregoing indicate that disease exists, hence they are the language of disease.

HOW TO LOCATE A DISEASE.

As has been previously shown, disease is abnormal vital action—an unusual or disturbed action of some or all of the organs—therefore, to determine the location of a disease, all we have to do is to apply the general rules before-mentioned to the various organs, and ascertain what organ or organs are acting abnormally, then we can tell where the disease is located; for the abnormal action is the disease. We must not close our investigation, however, as soon as we find that a certain organ is diseased; we must continue the investigation until we have compared the present vital manifestations of each organ with those that are known to proceed from that organ when it is in health; then, taking the aggregate of all these abnormal or unusual actions, we can tell just what organs are diseased.

THE NAMES OF DISEASE.

Any deviation from the healthy standard, either of vital action or of organic structure, is disease. Now, as the number of these deviations (in other words, the whole number of diseases), if we include all their differences in kind and degree, is scarcely calculable, it follows that any attempt to enumerate, name, and describe, each separately would be an endless task, for it is seldom that any two individuals ever manifest ex-

actly the same symptoms, or are diseased just alike; therefore, we shall group them together and present them in some order. Many persons have read in their water-cure manuals a description of a disease and its treatment, yet when they come to the bedside they perhaps find that the symptoms manifested by the patient vary somewhat from those laid down in the book, and they are at a loss to know with what disease the patient is suffering. They think that if they only knew the name of the disease they would know what to do, but they do not know how to find out with what disease the patient is troubled.

It is to be hoped that whoever reads these pages will not be satisfied with learning the names of various diseases, but that they will endeavor to learn the conditions of body that are signified by these names, and then, by reflecting upon the deviation of these conditions from those which occur in health, try to understand what condition should be supplied, or what hygienic agent applied, or what bad habit corrected—in other words, what principles of treatment should be adopted to restore the patient to health. If we understand the exact conditions of the various organs of the body when in disease, it does not matter whether we know the name of the disease or not, nor whether the disease has a name, for the name of a disease is only intended to express certain conditions or actions.

CLASSIFICATION OF DISEASES.

Probably the most convenient classification of diseases for the general reader will be as follows:—

General Diseases, and
Local Diseases ;
Acute Diseases, and
Chronic Diseases.

A general disease is one which is not confined to any special locality of the body, but is one in which more or less of the entire system is involved.

A local disease is one which is confined to some special organ or system of organs.

An acute disease is one which, with a certain degree of severity, has a rapid progress and short duration.

A chronic disease is one whose progress is slow and whose duration is long.

Diseases which are intermediate between acute and chronic are sometimes called subacute.

GENERAL DISEASES.

There are many diseases that affect the general system, but as this work is intended simply as a hand-book for home practice, and not as a complete text-book for the medical practitioner, there-

fore those diseases only will be introduced that can be treated at home with some degree of success.

MORBID CONDITIONS OF THE BLOOD.

The blood is the vital fluid from which all the tissues are built, and it is evident that, for the tissues to be properly maintained, the blood must be of the proper quality and proper quantity. This is not always the case however, for it frequently happens that there are individuals who have too much blood, others who have too little or whose blood is thin and watery, while others are subject to excessive hemorrhages, and still others who have other abnormal conditions of blood; but as such of the last as can be successfully treated at home will be mentioned in connection with other diseases, they will not be noticed here. The first morbid state of the blood that we will notice is that known as

ANÆMIA.

This term signifies poverty of the blood, or a condition in which the blood is thin and watery. If the blood of an anæmic patient be examined, it will be found deficient in red blood corpuscles. Instead of these existing in the proportion of 130 per 1000 parts as in health, they are reduced to 80 or even 60, and in severe cases even to 30. The red blood corpuscles are the ones that convey

oxygen from the lungs to the various tissues, and convey the carbonic acid from the tissues to the lungs for expulsion. Hence, it is highly important that there should be a normal supply of these. This disease is not confined to age or sex. It is met with where the digestive functions are imperfectly performed and in connection with many other serious chronic diseases.

SYMPTOMS.—There is a pale and waxy or sallow hue of the countenance, and of the skin generally; the lips, also the tongue and the inside of the mouth, are nearly colorless. The pulse is frequent, small, and quick, sometimes very quick. There is much pain in the top of the head and frequently in the front portions. Mental depression is generally a prominent symptom. Moderate mental excitement or bodily exertion is attended by a sense of sinking, or faintness. There is palpitation, with hurried breathing. Moderate exercise will increase the frequency of the pulse in some cases to double the beats per minute. The patient feels a lack of breath; this is because there are so few red blood corpuscles to absorb the oxygen and convey it to the tissues. Anæmia is also frequently attended with severe hemorrhage. When anæmia is of long continuance, a general wasting of the tissues sets in, also dropsy, difficult breathing, diarrhea, and profuse sweating, and then death soon follows, either by grad-

ual exhaustion, or more suddenly by syncope, convulsion, or coma.

CAUSE.—In most cases, this impoverished condition of the blood is brought about by improper habits of life, such as improper food, breathing impure air in close, unventilated rooms, want of sunlight, insufficient clothing or clothing improperly adjusted, the wearing of tight garments about the waist, and by lack of exercise. Excessive hemorrhage is also a frequent cause of this disease. It is also occasioned by taking drugs, such as antimony, mercury, or active purgatives.

TREATMENT.—The first thing to be done is to ascertain, if possible, the cause, and remove it, then attend well to the diet. The food should be nutritious and should be composed of fruits, grains, and vegetables. See Diet for the Sick.

The clothing should be so adjusted that the limbs will be as warmly clad as any part of the body. Every garment should be suspended from the shoulders and should be loose about the waist. Exercise in the open air should be taken each day, always stopping short of fatigue. Walking is the best exercise. An effort should be made to increase the amount of exercise day by day until the patient is able to walk five or six miles each day without fatigue. In addition to the foregoing, the patient should take a tonic bath twice or three times a week. The dripping-sheet at 85° or 95° is as good as any, or, if convenient,

the spray at 95°, or the pail-douche at 85° or 95°. These baths will tone up and strengthen the system. If the patient has cold feet, they should be bathed with cold water for two minutes at a time, then wiped thoroughly dry, and rubbed with the dry hand until perfectly warmed. A dry-hand-rub every morning on or before rising will be found very beneficial. This is a chronic disease, and it will require both time and perseverance to work a cure.

CHLOROSIS.

This term is applied to a disease that is sometimes called green sickness, a disease which frequently affects young women about the age of puberty, or soon after. There seems to be much confusion concerning the nature of this disease, many attributing it to disordered menstrual and sexual functions, as in most chlorotic women the menses have never occurred, or, if they have occurred, they have either been suppressed, or they are scanty, irregular, and pale. There can be no doubt that suppression is the result of chlorosis and not the cause of it.

In chlorosis, the blood is impoverished and is in the same condition as described in Anæmia, the two diseases being the same. The reason that the menses do not occur at the age of puberty in chlorotic women is, their blood is so depleted that they have not sufficient life to provide

for their individual maintenance, and at the same time make provision for offspring, which is the object of menstruation. The reason why so many are affected with anæmia or chlorosis at about or soon after the age of puberty is, at that age they, in some instances, overtax the mind by excessive study; in other cases, it is because the body is developing faster than at any other age, and is more easily affected by overwork or excitement of any kind, and any sudden change affects the constitution seriously.

TREATMENT.—The same in all respects as for anæmia.

PLETHORA, HYPERÆMIA.

These terms signify a superabundance of blood. Some authors speak of local hyperæmia as existing whenever some one or more organs contain too much blood, other organs at the same time containing too little. The fullness in these cases is simple congestion, and will be noticed under that head.

SYMPTOMS.—When general plethora exists, there is an excess of blood in all parts. The face appears full or swollen, and has a purplish tinge.

The eyes appear rather small, the pulse is large, somewhat hard, and resistant. The veins are swollen, and in some cases the individual becomes quite fat; but this is not always the case, and besides this, many fleshy persons suffer from a deficiency rather than from an excess of blood.

Plethora occasions lassitude and indolence ; a desire for sleep, which is often accompanied with snoring and dreaming ; a liability to vertigo and headache, and sometimes hemorrhage, especially from the nose, and from piles or hemorrhoids if they exist.

In plethora, the blood may be healthy and pure, but there is too much of it, and there is danger that some of the capillaries may be ruptured, which might result in serious consequences if the blood pass into the tissues of the brain or some other vital organ.

CAUSE.—The most frequent cause of plethora is too free living and too little exercise. A person with strong and large digestive organs is liable to overeat. If such a person takes more nourishment than he requires, there will be more blood made than can be used. If he takes too little exercise, or is of sedentary habits, his tissues will not change as fast as they should, hence, from these two causes, there will be an excess of blood.

TREATMENT.—The treatment of this disease is indicated by its cause. Active out-door exercise is of the utmost importance. Care should be taken at first not to heat the system. Begin by taking gentle exercise of any kind, and increase gradually, always carrying it as far as possible without fatigue ; for it is important that a change of tissue should take place, and this can be acceler-

ated by exercise. A spare diet is as essential as exercise. The food must be plain, and should be taken in as small quantities as the actual demands of nutrition will allow. A dripping-sheet at 75° or 85° , or a sponge-bath at 75° , followed by a dry-sheet rub, should be taken once a day for a few days, then skip a day and take the bath every alternate day thereafter for a few weeks, unless it be found that they weaken the patient.

HEMORRHAGE.

The escape of blood from the vessels in which it is naturally contained constitutes hemorrhage. Hemorrhage may be caused by cutting, or otherwise wounding, the arteries and veins. Such bleeding, if the vessels cut are quite small, will stop either spontaneously, or by simply binding the part. If an artery of some considerable size is cut (it may be known by the size of the stream and by the bright-red color of the blood), it should be tied. To prevent loss of blood while waiting the arrival of a surgeon, tie a handkerchief, or a strong bandage, about the wounded limb between the wound and the heart; tie sufficiently tight to stop the bleeding. If the wound is on the body, find the artery and make pressure at some point between the wound and the heart until it can be tied. If the blood flows in a steady stream, without jerking, and is of a dark-red color, it is simply venous blood, and the

hemorrhage can be stopped by binding on lint.

Another form of hemorrhage is that occasioned by some constitutional difficulty. It may result from tubercle, or cancer, as these occasion decay of the tissues and coats of vessels; or it may be occasioned by excessive congestions, or inflammations in which some of the smaller vessels are ruptured; or it may be caused by anæmia (poor blood), in which condition the tissues are all poorly maintained. This is especially the case with the coats of the capillary vessels, and they give way very easily.

For these reasons, hemorrhage frequently occurs in persons with the above conditions. Hemorrhage is not confined to any particular part of the body, but may occur from any organ or tissue.

CAUSE.—The immediate causes of hemorrhage in most cases are heat, violent mental excitement or muscular exertion, the use of stimulants, exposure to various irritants, excess of blood, and poor blood. Sometimes there is a hereditary weakness of the coats of the vessels, in which case a very trifling cause will induce bleeding.

PROGNOSIS.—If the blood flows into the substance of any of the vital organs or into the cavity of any of the membranes that surround the vital organs, or if it occurs repeatedly in a person whose blood is thin, or whose blood-vessels are weak, there is very little probability of entirely

overcoming the difficulty, even if death does not soon result. In other instances, death is very rarely the result.

GENERAL TREATMENT.—We should seek to excite contraction of the bleeding vessels and to balance the circulation by inducing a more copious circulation in organs or parts of the body remote from the bleeding part. The application of ice or cold water to the bleeding parts, or as near them as possible, will contract the vessels, and the application of warmth to parts remote therefrom will promote an increase of blood in those parts. A free current of air applied to the bleeding vessel will often cause the blood to coagulate in the part. As soon as the coagulum is formed in the vessel, the bleeding will cease. In endeavoring to control any form of hemorrhage, the patient should be kept as quiet as possible. His room should be kept cool and well aired. He should rest on a mattress without much covering, and subsist on simple, yet nourishing, food, and should drink freely of cold water or ice water, while the position of the body should be such that the flow of blood toward the bleeding part will be impeded. The after treatment should be such as will build up the constitution. Copious hot enemata are very useful in stopping hemorrhage from any organ.

BLEEDING AT THE NOSE—EPISTAXIS.

This should not cause alarm unless the patient is known to have thin, watery blood (see under head of *Anæmia*), or unless it occurs in advanced life, or comes on during the progress of some disease. But if it comes on in advanced life, it should cause alarm, unless the person has a tendency to apoplexy, in which case it may do no harm.

TREATMENT.—Apply cold water or ice to the bleeding part and to the back of the neck; keep the head exposed to cold air. Elevating the arms will frequently stop nose bleeding. Another good way is to press on the facial arteries. These may be found by moving the finger along the under side of the lower jaw from the chin backward, until a notch is felt about three-fourths of an inch forward of the angle of the jaw; at this point, the facial artery, which supplies the nose with blood, passes over the jaw-bone. By pressing firmly on the artery on both sides of the face, the blood is prevented from reaching the nose, consequently, the bleeding must cease. There are, however, occasional cases in which these arteries connect with arteries within the head after entering the nose; in such cases, pressure on the facial arteries will be useless; in all other cases it will be successful. When other means fail, the hot foot-bath should

be resorted to, also plugging the nostril, being careful to insert the plug back of the bleeding vessel, otherwise, the blood would run into the mouth and throat.

BLEEDING FROM THE LUNGS—HÆM-OPTYSIS.

When bleeding occurs in the lungs or bronchial tubes, the blood is generally raised by coughing. It is generally frothy and of a bright-red hue. The quantity expelled may vary from a simple streak mingled with mucus or a minute clot or two, to one or more pints. The hemorrhage very rarely proves fatal at once, though it hastens death if much blood is lost.

TREATMENT.—The hemorrhage should be checked as speedily as possible. The patient should be put to bed with the head and shoulders elevated, and should keep perfectly quiet; he should not be excited, but should dismiss all fear, for mental excitement will increase and prolong the bleeding. He should swallow sips of cold water, ice water, and occasionally bits of ice, and a cold compress should be kept over his chest, a hot fomentation should be applied to the spine at the same time. The limbs and feet must be kept warm. If there is congestion of the lungs, a hot foot-bath should be given, or the patient should be enveloped in a very thick woolen blanket, wrung out of hot water and ap-

plied as hot as he can possibly bear it. The extremities must be kept warm. A sitz-bath at from 98° to 105° , or a hot leg-bath at the same temperature, will frequently check the hemorrhage without any other treatment.

BLEEDING FROM THE STOMACH—HÆMATEMESIS.

When this occurs, the blood is usually vomited in large quantities; it is not frothy, as it is when it comes from the lungs; it is frequently mixed with food. Inexperienced persons often find great difficulty in determining between bleeding from the lungs and air passages of the throat, and bleeding from the stomach and meat-pipe.

To enable the reader to distinguish between them, we subjoin the following table of symptoms of each :—

SYMPTOMS OF

BLEEDING FROM THE LUNGS.

Difficult breathing.
Pain or heat in chest.

Blood coughed up in mouthfuls.
Blood frothy.
Blood bright-red color.
Blood mingled with mucus.

SYMPTOMS OF

BLEEDING FROM THE STOMACH.

Nausea.
Weight, pressure, and uneasiness, in region of the stomach.
Blood vomited profusely.

Blood not frothy.
Blood dark-red color.
Blood mingled with food.

TREATMENT.—The treatment for bleeding at the stomach should be in all respects as that for

bleeding at the lungs, except that solid food should be abstained from.

BLEEDING FROM THE KIDNEYS AND URINARY PASSAGES—HÆMATURIA.

This may arise from the presence of stone in the bladder or kidneys, or in the tubes that convey the urine from the kidneys to the bladder, or it may be caused by inflammation of the bladder or kidneys.

TREATMENT.—If inflammation exists, it must be reduced. See Inflammation of Urinary Organs. Cold or cool sitz-baths and injections are the local appliances. The general health should be well attended to.

BLEEDING FROM THE RECTUM.

This is usually caused by inflammation of the mucous membrane of the rectum, or the large intestine, or from hemorrhoids or blind piles.

TREATMENT.—Take cool sitz-baths for five or eight minutes at 75°, followed by brisk hand rubbing, or the hot sitz-bath, followed by cold. Ice may be introduced into the rectum with advantage if the bleeding surface is low down, or cold injections may be taken once a day, or a hot enema once a day with water at 105° Fahrenheit.

UTERINE HEMORRHAGE.

There are two kinds of uterine hemorrhage. The first that we notice is called menorrhagia.

This is simply an increased flow of the menses. The second is called metrorrhagia. The last is bleeding, independent of the menses, and is the proper uterine hemorrhage. The diseases which give rise to this difficulty are cancer, polypus tumors, congestion, and inflammation.

TREATMENT.—If a polypus tumor exists, a surgeon should be called, and the tumor removed. In other cases, ice or cold water applied, or a cold sitz-bath for a few minutes, or a hot sitz and foot-bath, or even the introduction of air to the bleeding parts, will usually be all that is required. The coldest water or ice, in a bladder or rubber bag, should be kept over the lower part of the abdomen, with heat to lower part of spine. If these appliances do not stop the bleeding, the vaginal canal should be packed with a sponge or soft napkin. If the bleeding is consequent upon childbirth, the plugging must not be resorted to. The hot foot-bath, and cold to the abdomen, and air to the bleeding vessels, and heat to the lower part of spine, are the appliances to be used. In the first variety give the warm foot-bath.

CONGESTION.

The term congestion denotes an abnormal accumulation of blood in a part. It may or may not be accompanied with pain; it is not accompanied with either heat or redness.

CAUSE.—Anything that will occasion an un-

balancing of the circulation may cause congestion. The vital organs may become congested by chilling the surface or extremities, or by wearing tight garments, or by the use of stimulating food. The brain may become congested by excessive mental labor, or anxiety, or by constipated bowels. In the last case, the overloaded bowel presses against the artery which carries blood to the lower extremities, and partially closes it, thus preventing the blood from flowing as freely through this artery as it otherwise would; the heart in the meantime does not slacken its action, consequently, at every beat it forces more blood to the brain than it would were the lower arteries unobstructed.

TREATMENT.—There are three ways in which congestion may be treated, either of which, in some cases, may be successful. It will be best, however, in all serious cases, to combine the three modes.

1. Remove the cause, whatever it may be.
2. Apply cold to the part, which will contract the capillaries, and force the blood along, and prevent the reception of an oversupply.
3. Apply warmth or heat to some other part of the surface or to the extremities, thereby inducing temporary congestion in them; this will relieve the previously congested organ. The heat should not be continued long at any one time.

INFLAMMATIONS.

Every part of the body is liable to inflammation, and there are very few diseases in which there is not more or less inflammation in some part of the body. Hence, a knowledge of the nature of inflammation will serve as a key to the comprehension of the nature of a very large number of diseases.

In very many diseases, inflammation of some part of the system is the immediate cause of the disease, consequently, in treating any disease in which inflammation is one of the conditions, we should seek to reduce the inflammation.

SYMPTOMS.—Inflammation is a disease which is characterized by pain, swelling, heat, and redness. Inflammation in different situations has points of difference relating to the structure affected, and it presents diverse modifications dependent on other circumstances than its seat. Nevertheless, there are features common to acute inflammation wherever seated, and under all circumstances, sufficient to enable us to identify the disease.

A part may be swollen by an accumulation of water or of air therein, as in dropsy and emphysema—wind dropsy—yet there may be neither pain, heat, nor redness. We must not confound these conditions with inflammation. Both may

exist without there being any inflammation in the part.

Neither must we confound inflammation with congestion. Although the last always precedes inflammation, it may exist independent of it. Congestion is simply the swelling of a part, caused by an accumulation of blood; and although pain may exist, there is neither heat nor redness.

Whenever the circulation is disturbed from any cause, there must of necessity be, relatively, more blood in some parts of the body than in others. Some organs become congested with blood which is not passed on readily because of the relaxed condition of the capillary vessels.

Whenever inflammation terminates by simple subsidence, it is said to terminate by resolution. In such a case, the congestion increases until some portion of the blood stagnates in some of the capillary vessels toward the center of the affected part. In a short time, preternatural heat is occasioned by the activity of the tissues to move the blood onward, and the part is then said to be inflamed. If the heat is not very great, nor continued for any considerable time, there will be no leakage of the blood nor of any of its constituent parts, nor any change in it. The inflammation begins to recede, the stagnant but still fluid blood is again set in motion, the rapidity of the circulation in the surrounding

vessels diminishes, and the part returns in all respects to its former condition. This may be properly called the spontaneous cure of inflammation, and to this event there seems to be always a natural tendency, which may be promoted by proper treatment.

Whenever the heat of inflammation is great or is long continued, other events than resolution will be liable to occur. The first we notice is the pouring out of the watery portion of the blood into the loose tissues. Sometimes some of the small vessels give way and hemorrhage into the part becomes an event of inflammation. It is supposed that this occurs in a greater or less degree in most cases of inflammation.

A third event of inflammation is the pouring out of the fibrine or coagulable lymph (that portion of the blood from which the tissues are built) into the loose tissues or upon the inflamed surface. When this lymph is poured out in certain locations, the parts become thereby adhered. In some cases, organs have been united firmly to other organs or to the walls of the cavity in which they are contained. If the lymph is poured out of the vessels among the tissues, it glues them together, and the organ becomes hard, and is said to be indurated.

A fourth event is the formation of pus, and is called suppuration. In this case, the lymph undergoes a change, occasioned by the excessive

heat of the part or by a less degree of heat long applied. There are two kinds of pus; the first of which is called healthy, because it has not undergone decomposition. It consists of yellow globules diffused through a watery fluid, and is an opaque, smooth fluid of the consistence of cream, and has little or no smell. The second kind of pus is called ichorous. It is a thin, watery, acrid pus, containing decomposed matter.

A fifth event of inflammation is ulceration. This occurs when in the process of suppuration. Some of the tissues become decomposed, and an open sore is produced.

A sixth event of inflammation is gangrene, or the death of the part.

RATIONALE OF INFLAMMATION.

Inflammation, like all other diseases, is the effort of the vitalized tissues or organs to expel impurities or poisons from the system, or to protect it from injurious mechanical, chemical, or vital irritants. This is proved by the fact that when any foreign body or substance becomes so firmly imbedded in the flesh that it cannot be removed by absorption, the part becomes inflamed, and pus is thrown around it, and by thus forming an abscess it is prevented from coming in contact with the living tissues. Or, if a part of the body becomes dead, the living parts, if possessed of sufficient vitality, immediately separate the dead

portion by throwing out pus between the living and the dead, and the dead portion soon sloughs away, and behind the pus which protects the living parts, granulations, or a new growth of flesh, take place, healing the part.

VARIETIES OF INFLAMMATION.

Inflammatory affections may be divided into several distinct kinds. That form which is definitely limited, and which tends to suppuration, as in the case of boils and abscesses, is called phlegmonous. That kind which is attended with eruptions, rashes, and extensive ulcerations, is called erysipelatous.

If the inflammation tends to produce a preternatural membrane on any of the mucous surfaces, as in croup or diphtheria, it is called catarrhal or membranous inflammation. If the inflammation is confined principally to the glands or to the serous membranes lining the cavities of the body, it is called serofulous or strumous. When confined to the structures of the joints, it is called arthritic.

Inflammation is also divided into acute, sub-acute, and chronic. The first is attended with general fever; the second, with an occasional slight febrile paroxysm, while the third is not attended with any general disturbance.

GENERAL TREATMENT OF INFLAMMATION.

In treating inflammation, it is desirable to restore the inflamed parts to their normal condition before any of the serious events previously mentioned shall have occurred. To do this, care must be taken to remove the cause, whatever it may be. The diet must also be regulated, and all stimulating or irritating substances, also all concentrated substances and condiments, must be withheld therefrom. Feed the patient on plain, nourishing food.

If the external surface is the part inflamed, cold wet cloths should be applied without interruption in the early stages, with a view to reduce the inflammation before suppuration takes place. In this case, the cold cloths should be changed as often as they become warm. There may be cases in which cold will cause pain; in such cases, make a tepid application. In some cases it will be impossible to prevent suppuration from taking place, in which case, as soon as it is ascertained that pus is forming, the cold applications should be dispensed with, and hot applications or warm poultices applied instead, if the inflammation is external.

If the inflammation is deep seated, or is in some internal organ, hot fomentations should be applied over the part once or twice a day for from fifteen minutes to half an hour or more,

followed by cold applications for from three to five minutes; or, the hot and cold applications may alternate. A cool wet cloth should be applied at all times when the fomentation is not applied. If the feet and limbs are cold, apply a hot foot-bath. If the patient is strong, a warm bath of any kind for ten minutes may be given twice a week; but if he is weak, give the half-bath at 90° or 95° for ten minutes, or the dripping-sheet at 92° , or, if he is very weak, give the sponge-bath.

Local inflammation will be treated under the head of local diseases.

DROPSY.

This word signifies an accumulation of watery liquid in some of the natural cavities of the body, or a diffusion of this fluid through the loose tissue, or both. It is an important symptom of other diseases, for water can never collect unless some of the tissues are diseased.

There are certain cavities in the body which do not open externally, neither do they communicate with other cavities, nor with each other by any opening. These cavities are each lined with smooth and delicate membranes, called serous membranes, whose office it is to secrete a smooth serous or watery fluid for the purpose of keeping the organs contained within the cavity well lubricated.

In health, there is a constant secretion of this

fluid, yet it does not accumulate, for it is absorbed as fast as it is poured into these cavities. There may be two conditions in which this water may be caused to accumulate. The first, which is called active or acute dropsy, is caused by an inflamed condition of the serous membrane. This causes an excessive amount of the fluid to be poured out. The second is called chronic or passive dropsy, and is occasioned by deficient absorption caused by an inflamed, congested, torpid, or otherwise diseased condition of some of the vital organs.

Such being the case, it is evident that anything which can induce irritation, congestion, or a slight degree of inflammation of the serous membranes, such as cold, the sudden repelling (striking in) of skin diseases, the changing of the seat (metastasis) of gout or rheumatism (this is caused by taking drugs), etc., will occasion acute or active dropsy. Secondly, whatever weakens the tissues or impoverishes the blood, as insufficient food, loss of blood, or exhausting disease. Thirdly, anything which obstructs the circulation and causes a retention or sluggish movement of blood in the veins, as the closing of the veins by inflammation, or the pressure of swollen or inflamed organs. The pressure caused by tumors, as well as organic disease of any of the vital organs, will frequently cause chronic dropsy.

If dropsy occurs within the skull, it is called

hydrocephalus, or dropsy of the brain. If it occurs within the chest, or thorax, it is called hydrothorax, or dropsy of the chest. If within the pericardium—the membrane that surrounds the heart—it is called hydropericardium, or dropsy of the heart. If it occurs within the peritoneum—the membrane which lines the abdominal cavity—it is called ascites. If the water is collected within the coats of the testicle, it is called hydrocele. If the water is generally diffused throughout the loose tissues of the entire body, it is called anasarca, or general dropsy. If the dropsy is confined to the feet, or to any other small locality, it is called œdema.

Acute dropsy, or that form which is produced by active inflammation of the serous membranes, will generally end favorably soon after the inflammation of the membranes subsides, but that which supervenes on other diseases is rarely curable.

GENERAL TREATMENT.—In treating dropsy it is important to know its cause. In the acute form, the treatment must be such as to allay the inflammation. This will be spoken of in connection with local inflammations. In treating chronic dropsy, we should seek to improve the general health of the patient by a careful compliance with all of the laws of health (read carefully Part I.). The accumulated water may be removed by occasional sweats (see Hot-air-bath,

Part III.), taken perhaps twice a week, also the wet-sheet-pack may be taken once a week and the hot-air or vapor-bath once. Warm clothing should be worn at all times. In addition to the above, the patient should take constitutional treatment, which see. In many cases, the water accumulates so as almost to prevent breathing. In such case, it is necessary to draw the water off by tapping.

SCROFULA.

The term scrofula comes from the word *scrofa*, which signifies a sow, because swine were supposed to be especially subject to swellings in the neck. This term is used to designate a peculiar primary, constitutional disease, which may result either in the formation of tubercles or in some specific form of inflammation or ulceration. The peculiar condition of the system that lies at the foundation of these varieties of this widespread disease is called the scrofulous, strumous, or tuberculous diathesis. This term simply signifies a frail, delicate, infirm, lax organization with weak depurating organs. In the early stages of this disease, tubercles are developed.

The word tubercle signifies a knot, or excrescence. A tubercle is a small tumor or morbid growth in the substance of an organ. It differs from the tissues, yet it has some vitality. It is somewhat of the nature of the wart. At first, the

tubercle is a gray, tough, compressible, semi-transparent substance, resembling in appearance the millet seed.

For a time, tubercles have a low vitality, but after a while, they die and are decomposed into a yellow, cheesy mass. These tubercles have been found in various organs. The following is the order of frequency in which various organs were found affected, by Willigk, who examined 1317 cases of tuberculous diseases.

The lungs were the most frequently affected, next, the intestines, mesenteric glands, larynx, lymphatic glands, peritoneum, spleen, kidneys, pleura, liver, air passages, bones, genital organs, brain, membranes of the brain, urinary passages, heart case, stomach, bowels, skin, muscles, tongue, pharynx, pancreas, and heart. It will be seen that every organ is liable to be the seat of tubercles. When these tubercles break down, they usually form abscesses or ulcers. Sometimes the decomposed tubercles are gathered up by the lymphatic vessels and carried to the lymphatic glands (generally of the neck, or those under the arms, or in the groins), where they are lodged. These glands soon became inflamed and an abscess forms which soon becomes a foul, running ulcer, and is very hard to heal. If the tubercles form in the lungs, the disease is called tubercular consumption. In this

case, abscesses form in the lungs. If the tubercles form in the mesentery—the fatty membrane that binds the intestines together—abscesses form, and mesenteric consumption, or consumption of the bowels, is the result.

Tubercles of the skin are usually formed in the face. There is to be seen an innumerable number of small, red eminences, which are hard and of a bright color. These occasionally become disorganized, and discharge pus until the tubercle is all removed, after which the sore heals.

The scrofulous diathesis is very easily recognized. The child has a pale and pasty complexion, large head, narrow chest, protuberant belly, weak and flabby muscles, and is apt to have sore eyelids, or sore ears, or sores about its face and neck. Scrofula may develop at any period of life in those who are liable to it. The special causes most frequently assigned for its appearance are hereditary influences, impure air, improper food, cold, damp atmosphere, and syphilitic affections.

By hereditary influences is meant that the child has inherited a weak constitution—weak vital organs—from his parents.

TREATMENT.—It is evident that all those causes which induce this disease must be sedulously avoided. The patient should have an abundance of pure, fresh air and clear sunlight. He should have an abundant supply of nutritious food,

which should consist principally of fruits, grains, and vegetables. Greasy and oily food is particularly bad in this disease, and should be avoided. Milk, if pure, is not objectionable when cooked with other food. The patient should exercise daily in the open air according to his strength. He should bathe two or three times a week. The form of bath is immaterial. It may be the tepid full-bath for ten minutes, or the half-bath, or dripping-sheet, or any of these alternated with the wet-sheet-pack. If there is fever, the cool full bath or pack may be taken once or twice daily as long as the fever lasts. The bowels must be kept free by the use of proper food or with enemias. The patient should take a sun-bath daily. Cold wet compresses should be constantly applied to the tumors so long as they manifest heat, redness, or pain. Nothing but the strictest observance of the laws of health will enable a person to overcome this disease. Read Part I., and obey its teachings, also see Constitutional Treatment, and bathe as there directed.

CANCER.

This distressing malady makes its first appearance as a hard tumor. At first, it cannot be determined with certainty that it is a cancer, but after remaining dormant for a time (this may vary from a few weeks or months to many years), it increases in size, and growths called roots are

seen proceeding from it into the surrounding tissues. After a time, the tumor becomes painful, the pains being sharp, or lancinating, and, finally, it becomes an open ulcer, discharging fetid, watery matter. The skin becomes tawny or straw colored, and the general health soon gives way.

Of the cause of cancer, little is known. All classes of society are subject to it. It appears, however, that those who are descended from cancerous, scrofulous, or consumptive parents, are more liable to it than others.

TREATMENT.—It is seldom that cancer is cured, yet palliative treatment may be so administered that life may be prolonged. The great point is to keep the constitutional powers up to as near the standard of health as possible, which can only be accomplished by nourishing food, pure air, warm clothing, personal cleanliness, mental occupation, and a strict observance of the laws of health (see Part I.). In the incipient stages, cancers, as well as other tumors, are often removed by absorption induced by an abstemious diet. It is not meant by this that the patient should so far reduce himself as to become weak, but that he should use the best and most wholesome food in as small quantity as the demands of nutrition will allow. In all other respects, the general treatment pointed out for scrofula should be followed in treating cancer. If the cancer has become an open ulcer, it will be useless to try to

cure it by absorption. Cancer is often removed by the knife or by caustics; but it generally reappears after a few months unless removed while in its first stages. It has been removed when in the first stage by absorption induced by the frequent application of freezing mixtures.

When this disease is known to exist, all stimulants and irritating food must be avoided.

RICKETS.

This disease usually manifests itself in early life, generally previous to the fifth year. It is a constitutional disease, and consists chiefly in an absence of earthy matter from the bones. The cause may be hereditary, children of scrofulous parents being particularly liable to it. Anything that impairs the powers of digestion and assimilation is also a remote cause of this disease. Insufficient and improper food, impure air, residence in damp, cold, dark, or filthy dwellings, and all similar circumstances, serve to induce this disease.

SYMPTOMS.—The earliest symptoms are languor, occasional fever, sadness, irritability of temper, copious perspiration about the head, general tenderness of the body and limbs. After a while, the head appears enlarged, the face pale, and the features thin, the wrists, knees, and ankles become swollen, and are slightly painful

to the touch, and if the child attempts to stand or walk, the legs soon become crooked.

TREATMENT.—As the chief cause of this disease is improper food during the first year of the child's life, together with other unhygienic habits and agents, it is absolutely necessary that the child should have the best of food (graham bread and milk is excellent), plenty of pure air and sunlight, regular exercise, and that it be kept clean. This, with two or three cool baths each week and a thorough hand rubbing daily, will generally bring about a measure of health, but more or less deformity will always exist, unless taken in hand early.

Parents who are of scrofulous diathesis (see Scrofula) should pay the strictest attention to the laws of health if they would have their children escape rickets and other diseases toward which they are liable to transmit to their offspring a tendency.

OBESITY OR CORPULENCY.

A morbid accumulation of fat may shorten life by inducing other diseases, and by suffocation.

Persons who have a tendency to obesity should abstain from the use of sugar, or sweets, and from all kind of fats and oils, butter and cream, and from food that contains much starch, such as potatoes, fine wheaten flour, corn, sago, etc., and they should not overeat. A spare diet, composed

of subacid fruits, oatmeal, unbolted wheat meal, and an abundance of out-door work, with a daily cool dripping-sheet-bath, will correct this difficulty.

GOUT.

This is an inflammatory affection of the joints of the toes, feet, fingers, and hands. It is accompanied by great pain and swelling of the affected joints with more or less fever, and by some disturbance of the digestive organs.

This disease is generally caused by the use of rich and highly seasoned food, wine, and spirituous and fermented liquors. When drugs are administered in the treatment of this disease, it is not uncommon for the inflammation of the joint to suddenly subside, and for a new inflammation to manifest itself in some of the internal organs, which in many cases proves fatal. This changing the seat of the inflammation, which is called metastasis, has never been known to occur under the hygienic treatment.

TREATMENT.—The first thing to be done to insure recovery is to cut off the supply of rich food, pies, cakes, preserves, puddings, gravies, condiments, and all spirituous or fermented liquors, and to place the patient on a spare diet of hygienic food (see Diet for Sick). He must eat as little as he can subsist upon for a few days. The cold compress should be applied to the inflamed

part until the heat is reduced to the normal standard, but no longer. If the cold water causes pain, tepid water can be applied, and then the temperature gradually lowered. A daily pack should be given for half an hour, followed by a dripping-sheet, or any other form of general bath.

If the patient is weak, with feeble nerves, and a shattered constitution, cold water should not be applied, but all the applications should be tepid or warm. In some instances, hot fomentations applied to the affected part for fifteen or twenty minutes will be very beneficial.

RHEUMATISM.

This disease is not confined to any special locality nor to any particular organ of the body, but it particularly affects the dense tissues of the joints, the tendons, and ligaments, and the membranous sheaths of the muscles and their fibers, and the lining membranes of the cavities of the body, all of which are composed of white, fibrous tissue, to which this disease seems to be confined. There are two forms of rheumatism, the acute and the chronic.

ACUTE RHEUMATISM.

This disease is characterized by fever, profuse sweating, and inflammation of the membranes of some one or more of the large joints. This disease is to be especially dreaded on account of the extreme suffering it causes.

SYMPTOMS.—The early symptoms are restlessness and fever, succeeded at the end of twenty-four hours by stiffness and aching pain in the limbs and joints. Exposure to cold and damp or similar depressing influences generally precedes these symptoms. The pain quickly increases, and in a very short time is accompanied by swelling and great tenderness in one or more of the large joints, with high fever and much general disturbance. When the disease is fully established, the patient is very restless, yet he dares not move. The pain in the affected joints (many of the joints are frequently affected) is so severe that the weight of the bed-clothes can hardly be tolerated. The skin is not unfrequently bathed in sweat.

TREATMENT.—Apply prolonged warm fomentations to the affected joints, or the hot fomentation alternated with cold every five or ten minutes for a half hour at a time, to mitigate the extreme pain and tenderness, then give a tepid wet-sheet-pack for an hour, unless the patient becomes weary. As soon as the patient can be moved from his bed, he should take a warm full bath, or a warm sitz-bath, for fifteen minutes, once a day, or he may take the hot-air-bath, or the vapor-bath, for ten or fifteen minutes (see direction for these in Part III.). The patient should be restricted to a very spare diet for the first few days, or until the fever subsides. The

diet should be composed of wheat meal or oatmeal gruel, toast, bread, and acid fruits ; lemons, especially, may be given freely.

CHRONIC RHEUMATISM.

This disease is similar to gout, except that the large joints are affected instead of the small ones. It differs from acute rheumatism in that the pain and tenderness are less, and there is little or no fever.

TREATMENT.—The same as for gout, which see.

FEVERS.

A fever is a disease in which there is a general disturbance of most or all of the vital functions, attended with cold, hot, and sweating stages. There is first a preliminary stage, of languor and weakness, with defective appetite, nausea, headache, pains in the small of the back, and limbs, with slight chilliness, or shivering. This is succeeded by the confirmed stage, in which there is preternatural heat of the body, caused by increased activity and waste of the tissues, increased circulation, as manifested by the increased pulse, and extreme weakness.

CLASSIFICATION OF FEVERS.

It is hardly possible to find any two writers who are agreed as to the classification of fevers. We find fevers spoken of as typhus fever, brain

fever, congestive, yellow, ship, spotted, jail, camp, hospital, puerperal, bilious, putrid, low, nervous, mucous, mesenteric, milk, catarrhal, Panama and mountain fevers, ataxic fever, adynamic fever, gastric, enteric, typhoid, etc. This complexity of nomenclature is puzzling, not only to the non-professional reader, but to the medical practitioner, for many a physician finds it difficult to answer anxious friends when they ask what kind of fever the patient has. To avoid confusing the mind of the reader, fevers will be classified in this work in the simplest manner possible.

As previously stated, it is evident that it does not matter whether we know the name of a disease, provided we know the conditions of the patient; for if we know these, we shall know what the patient requires, even though the disease has no name. It is evident that the knowledge of the name of a disease will do us no good unless we know the conditions implied by that name. Therefore, out of the many names that have been applied to each form of fever, that one will be selected which most fully expresses the condition of the patient.

A person sick with fever will always be in one of three conditions, and the treatment depends wholly on these conditions.

1. He may be of vigorous constitution, with strong vital organs, and possessed of a great amount of vitality, without much gross or waste

material in his system. In this case, there is great activity, with a strong determination of blood to the surface, so much so that the surface appears inflamed, and there is great heat, and the effort continues until the system is purified. Hence, we call this inflammatory fever, or, simply, continued fever.

There is still another form of fever, the nature of which is precisely like the above form in all respects except in the periodicity of the paroxysms. In this form, there is a complete cessation or intermission of the paroxysms, during which the patient feels well. In this form of fever, the paroxysms may recur daily, or every other day, or they may skip two days. This form of fever is called intermittent fever, or ague.

2. He may be weak and very gross, his system being filled with the retained excretions which his organs of depuration have failed to eliminate from his system. In this case, there is not much vitality. He may have had a large amount of vitality, however; but by unhygienic habits, such as overwork, either physical or mental, eating highly-seasoned or greasy food, or drinking alcoholic beverages, smoking or chewing tobacco, breathing impure air, etc., the vital organs have gradually weakened and failed to depurate the system properly, and, as a consequence, it is filled with retained excretions. Grossness and strength cannot go together, for when there is much

vitality, the system is kept pure by the proper organs. A fever with the patient in this gross condition is properly called putrid fever.

3. He may have a weak nervous system, and but little vitality, and at the same time not be very gross. It matters not how much original vitality he may have had, if it has been reduced by any cause that has not occasioned much grossness, he will have a fever characterized by extreme weakness and nervous irritability. In this case, it will be proper to call the disease nervous fever.

When either of the last two—that is, the putrid and the nervous—forms of fever are continued day after day, without intermission or remission of the paroxysm, the fever is said to be of the continued type, and thus we have putrid continued fever, and nervous continued fever. Typhus and typhoid fevers may be either nervous or putrid; but they always belong to one or the other of these classes. If there is a daily subsidence or remission of the paroxysm, and yet not a full intermission, the fever is said to be of the remittent type; hence, we may have putrid remittent fever and nervous remittent fever.

In addition to the foregoing, there are certain forms of fever which depend upon some specific cause, and which are characterized by certain skin eruptions. These are properly called eruptive fevers. Of these, there are several

varieties, each of which is only induced by its own special cause, and is characterized by its own peculiar eruption, hence it is proper that each variety have a special name, as small-pox, cow-pox, chicken-pox, measles, scarlatina, etc.

Thus far, fever has been considered as a primary disease, not dependent on any other disease. It is often the case, however, that fever is only a symptom of some other disease, and had it not been for that other disease, the fever would not have occurred. All such fevers are to be classed as symptomatic.

It will be seen by the foregoing remarks that all fevers must assume one of three types. They must be either continued, remittent, or intermittent. The type which a fever assumes depends wholly upon the condition of the patient at the time the fever makes its appearance. If he has strong vital organs, the disease is continuous until his system is purified, regardless of the amount of grossness his system may contain; but if he has not sufficient vitality to continue the remedial effort until purification is accomplished, then the fever intermits or remits, as the case may be, for the purpose of affording rest to the vital organs. Therefore, it is evident that the only importance we should attach to the type a fever may assume is in view of the assistance it may render us in determining the actual condition of the patient. Hence, type is only symp-

tomatic of certain conditions, and as there are many symptoms which indicate the condition of the patient, there is no more propriety in basing a plan of treatment for fever on the type it assumes than on any other single symptom it may manifest.

As has been shown, all fever patients must be in one of three conditions, viz., strong, with but little grossness, or weak, with but little grossness, or weak, with great grossness. It therefore follows that in classifying fevers with reference to the treatment, they should be classified in accordance with these conditions, and this is the plan adopted in this work. This gives us, so far as treatment is concerned, but three forms of fever when considered as a primary disease, viz.,

Simple Fever,

Putrid Fever,

Nervous Fever.

Let it be understood that in this classification, we have special reference to the condition of the patient and to the treatment of the fever, and not to its cause, nor to the symptoms it manifests, nor to the liability, in certain cases, of the disease being communicated from one person to another.

GENERAL CAUSES OF FEVER.

These may be stated in general terms to be anything that will cause a clogging or weakening of any of the purifying organs, thereby caus-

ing them to cease their work, and, as a consequence, causing the body to become filled with retained excretions. The fever is nothing more nor less than an attempt on the part of the organism to purify the system by exciting undue activity in various parts, thereby disturbing all the organic functions. The cause may be local contagions, or poisons, impure water or unhealthful food, foul air, personal uncleanness, overwork, worry of mind, exposure, gluttony, intemperance, or starvation.

GENERAL TREATMENT OF FEVER.

It will be readily understood that in treating fever—the object being to restore the patient to health—the treatment should begin at the very outset of the disease, and that it should be such as the conditions of the patient indicate. Let us examine these conditions. 1. There is languor and weakness. 2. The appetite is defective. This is because the food cannot be used in building up the tissues, as they are engaged in other work—the disease—therefore the system makes no demand for food, but loathes it. 3. There is nausea, caused by morbid matter in the stomach. 4. There is usually a constipated state of the bowels. 5. There is headache, with a slight sensation of chilliness. These are the premonitory symptoms of fever in nearly every form and case

that occurs, and they should not go unheeded for a moment.

If proper treatment is adopted as soon as these symptoms begin to manifest themselves, the disease may be so modified—if not entirely obviated—as to cause but little alarm, and no serious discomfort to the patient.

Begin the treatment, then, as soon as the symptoms of febrile disorder make their appearance. If the patient has no appetite, he should fast for one or two meals. If he feels languid and weak, he should lay aside all business and care, and rest till he is well. If troubled with nausea, or sickness at the stomach, he should drink two or three pints of tepid water and titillate his throat with his finger or with a feather to cause vomiting, and thus free his stomach of morbid or bilious matter. (If the warm water does not occasion vomiting, use hot water.) If his bowels are constipated, he should free them with a thorough enema of pure water. If his head aches or is congested, he should take a hot bath, and draw the blood to the surface and extremities. The bath may be either the full-bath, sitz-bath, or the hot-air or vapor-bath. It should be taken until perspiration is induced, unless faintness occurs. This should be followed by a cool bath for three minutes, and then by wiping dry, or in place of the bath, a tepid pack may be

taken for an hour. The majority of cases of fever, which, under drug treatment, prove most serious maladies, would be prevented if treated in the above manner at the outset. Fevers in general should be treated with tepid or warm water.

In the majority of cases, the patient fails to take the treatment he should until after the beginning of the secondary or confirmed stage. In this stage, there is greater weakness, an intensified headache, preternatural heat, which may be very great, and an accelerated pulse. If the treatment is now commenced, it should be by placing the patient in a warm or hot pack or bath, unless the heat of the patient be very intense, then cold water may be used. The heat of the patient will be reduced by the evaporation of the water from the surface of his body. Cold cloths should be applied to the head, unless it is congested and feels sore, in which case apply hot fomentations. The food should be very plain, yet nutritious (see Diet for the Sick).

There is a tendency in all fevers, as the doctors say, to "run a certain course and then cease," and scores of quotations from many of the best medical authors might be cited in which they inform their students that it is impossible to cure a fever, and warn them against making the attempt; for, say they, "after it has run its course, it will terminate naturally in the re-establishment of

health when uninterfered with by art.”—*Tunner*. Therefore, in treating fever, we should ever keep in view the fact that fever is not to be cured, but to be guided. In seeking to direct or control fever, we should ever bear in mind the three conditions, in either of which the patient may be found, viz.: 1. Strength and activity without grossness. 2. Weakness without much grossness. 3. Weakness with grossness. In the first form, the fever being high, without grossness, the principal requirement is to cool the patient. In the second form, there being weakness without grossness, the principal requirement is to balance the circulation. While in the third form, in which there is weakness with grossness, the principal requirement is to purify the system. In all forms of fever, free ventilation and sunlight are necessary to the patient's recovery.

SIMPLE FEVER OF THE CONTINUED TYPE.

This is a disease which need not give any alarm if it is rightly managed, as it is seldom fatal. It may be so slight as to cause but little disturbance of the vital functions, or it may manifest itself with very strongly marked symptoms. This class of fever includes what is called inflammatory fever.

SYMPTOMS.—Lassitude, lack of energy for bodily or mental exertion, loss of appetite, nausea,

pain in front portion of the head, aching of the back and limbs, coldness of surface, especially of the back, and frequently there is shivering. The chill may be quite light or very severe, or anywhere between these extremes. At the end of a few hours, in most cases, the chill passes off, and the skin becomes dry and hot. In other cases, the heat will be extreme and the skin swollen and florid. The pulse will be quick, but not frequent, hard, full, and strong, the tongue, white with red edges, and there is generally a constant thirst; the eyes are reddish; the urine is scanty and high colored; the bowels are constipated. Generally, there is not much mental disturbance, yet in some cases, the mind wanders, and the patient is restless, appearing very ill. There is a slight aggravation of all the symptoms each forenoon, and a still greater aggravation toward evening.

The fever continues without intermission until the system is purified—the fever being a purifying effort—which usually occurs, when there is no treatment given, within eight or ten days. Under the hygienic system of treatment, the patient generally recovers within five or six days, and frequently within two or three, if treatment is given at the beginning. Treated with drugs, it is not uncommon for it to exceed the ten days which unaided nature requires, and to be changed into the putrid form.

TREATMENT.—If the patient has sufficient vi-

talily, the pack may be given two or three times a day, at a temperature most agreeable to him, until the heat becomes normal. Or large wet cloths may be spread over the body and limbs, and changed as often as they become warm. Free the bowels with enemias; free the stomach with warm-water emetics; keep the head cool. The pouring head-bath may be used freely in this form of fever. The room must be well ventilated at all times. In all respects other than those given above, follow directions for General Treatment of Fever.

SIMPLE FEVER OF THE INTERMITTENT TYPE—AGUE.

This disease is known as ague, intermittent fever, chill fever, etc. It also includes dumb ague.

There are three forms of this disease, viz.,
Every-day ague, or Quotidian Type;
Every-other-day ague, " Tertian Type;
Every-fourth-day ague, " Quartan Type.

CAUSE.—Ague may be caused by any of the general causes of fever, which see.

SYMPTOMS.—This fever may be readily distinguished from all other forms of fever by the fact that the paroxysms, which are characterized by hot, cold, and sweating stages, occur in regular succession, the cold stage varying from thirty minutes to four hours. This stage is gradually

succeeded by the hot stage, in which the surface of the body becomes dry, and intensely hot. The mouth is parched, there is excessive thirst, bounding pulse, painful sensation of fullness in the head, general uneasiness, and frequently there is delirium. The hot stage, which is seldom of less than two or three, nor more than ten or twelve, hours' duration, is followed by the sweating stage in which the whole body generally participates. The pulse and breathing become natural, and the patient soon feels quite well, and so continues until the next day, in every-day ague, or until the third or fourth day, in the tertian or quartan form of the disease, when he again passes through the paroxysm. These paroxysms generally return at about the same hour of the day. In some cases, however, they make their appearance an hour or so earlier each day; in others, an hour later.

Like all other forms of fever, there is in this disease a tendency to terminate favorably, without the interference of art; but it is a slow disease, and in very many instances, the patient feels completely worn out before the termination.

TREATMENT.—If the case is a recent one, and the patient's vitality is not much lowered, it is easily managed. The bowels should be freed with enemata, and the stomach with warm-water emetics. When the chill is expected, the patient should go to bed, cover up warm, with a hot jug

or hot brick to his feet, and a bag of hot sand to his back, and a cold wet cloth to his head if it aches. He should drink a glass or two of hot water during the cold stage. As soon as the hot stage comes on, or soon after, the patient should be placed in a warm wet-sheet-pack, in which he may lie from thirty to sixty minutes, having a cold wet cloth on his head. Some prefer the cold pack when the fever is on, but the temperature is immaterial, for the cold pack immediately becomes warm. The patient should be allowed to drink freely of cold water or of lemonade. On the day during which the chill does not occur, he should take either the hot full-bath, sitz-bath, vapor-bath, or hot-air-bath—it is immaterial which—and immediately following this, the sponge-bath or cool dripping-sheet.

If the case is of long standing, or if the patient's vitality be low, the hot full-bath should not be administered oftener than once a week; the warm sitz and foot-bath should take its place on other days. In chronic cases, the liver, or spleen, or both, are torpid or congested, and to induce action in them, the wet-girdle should be worn most of the time. See description in Part III. Rest from all care and labor is essential to recovery. If hard water is used for drink it must be discontinued and soft water substituted.

In this disease it will be necessary to provide the patient with a nourishing diet, which may

include any of the articles mentioned under the head of Diet for the Sick.

CONGESTIVE CHILLS.

Occasionally a person is taken with what is called a congestive chill, which lasts from ten to thirty-six hours. The blood all recedes from the surface to the vital organs, which become so congested that they cannot do their work: consequently the patient dies.

TREATMENT.—Give the full-bath at 110°, for fifteen minutes, then dash a few pailfuls of cold water over the body, and over the back in particular. If, after the lapse of thirty minutes, the chill still continues, apply ice the full length of the spine, or a stream of cold water. The use of ice is often effectual when all other appliances fail. In applying ice, move it from the back of the neck down the spine repeatedly.

NERVOUS FEVER—TYPHOID FEVER.

In this fever, there is great debility, occasioned by the peculiarly weakened condition of the vital organs at the access of the fever. This disease usually lasts from fourteen to twenty-four days, when no drugs are taken. If drugs are taken, it very often lasts from thirty to fifty days, unless it sooner terminates in death.

SYMPTOMS.—At first the symptoms do not differ from those of a mild or insignificant fever;

but as the disease advances, the pulse becomes frequent, weak, and irregular, the mind is dejected or delirious, the tongue is covered with a thick, white mucus. The countenance is pale and expressionless, yet the patient manifests no apparent anxiety. There is extreme weakness, but not much grossness or putricity, the breath is not very foul, neither are the discharges from the bowels as offensive as in putrid fever. After a few days, the skin, which at first is dry, becomes covered with a clammy sweat.

TREATMENT.—The cold applications must never be administered in this disease, except to the head. If the fever is general and the heat great, the tepid sheet may be applied. Generally there will be a feeble circulation in the feet, consequently they will be cold. The principal treatment should consist in keeping the circulation equalized. This can be done by applying jugs or bottles of hot water or bags of hot sand to the feet and limbs when cold, and tepid wet cloths spread over the body and limbs when preternaturally hot, or by frequent spongings of the whole body with tepid water. Relieve diarrhea, constipation, or nausea, the same as in other fevers. Give frequent sips of water to drink, but it must not be too cold. In this form of fever, the patient must have perfect quiet, and must see no one but the nurse. In all other respects, treat as directed for fevers in general. Under

drug treatment, this disease is often fatal; under the hygienic system, it is seldom fatal.

PUTRID FEVER—TYPHUS FEVER.

This form of fever is characterized by great grossness. It is the camp, ship, jail, hospital, and mountain fever, of some authors; and includes what is known as yellow fever, bilious fever, and what many call typhoid fever.

SYMPTOMS.—Putrid fever differs from nervous in that while the nervous form commences mildly, with only slight shiverings, the heat being scarcely above the natural temperature, the pulse small and only a little quickened, the putrid form commences suddenly and progresses rapidly, the chill is severe, the strength fails rapidly, the pulse is hard, small, quick, and fluttering, ringing in the ears, intense pain over the forehead and crown, with throbbing in the temples. The countenance has an anxious expression, and there will be delirium, followed by stupor. The breath is hot and offensive. The tongue is at first of a dark yellow, then of a brown or black, color, and finally it cracks; the lips turn dark and crack also. The evacuations from the bowels and bladder are dark and very offensive. As the disease progresses, purple spots appear on various parts of the surface, and the face is of a livid or dark-red color.

TREATMENT.—The patient must have an abun-

dance of pure air, as purification is the principal requirement in this form of fever. The sick room must be kept quiet. In the early stages, the tepid wet-sheet-pack should be given daily, or cloths wet in tepid water should be spread over all parts of his body and limbs, and changed every ten minutes. The feet must be kept warm and the head cool, at all times. The danger in this disease is from diarrhea and inflammation of the bowels; therefore, at the first appearance of the disease, a copious enema of warm water should be administered, and cool or cold wet cloths should be constantly applied to the abdomen until all preternatural heat is removed. Hot fomentations over the bowels for twenty minutes, followed by cold compresses, are very useful after the diarrhea has set in.

In treating this fever, the rules for treating fever in general are applicable in all respects other than indicated above. The head-bath should be freely used.

SYMPTOMATIC FEVERS.

There are certain diseases, such as inflammation of the brain, inflammation of the lungs, inflammation of the lining membrane of the abdomen, etc., in which the inflammation is so great as to cause a general fever. In these cases, the fever is symptomatic. In treating symptomatic fever, we are to treat the fever with reference to

the disease of which it is a symptom, that is, we are to treat the fever just as we would if it were unattended with any local disease, and was as severe as we now find it. Then we are to treat the local disease just as we would the same affection if it were unattended with fever. These two forms of treatment make up the treatment for that special variety of symptomatic fever.

BRAIN FEVER.

This fever is known by a variety of names, as spotted fever, cerebro-spinal meningitis, cerebro-spinal typhus, malignant purple fever, encephalitis, etc.

The fever in this case is purely symptomatic, as the real difficulty consists in an excessive congestion and inflammation of the brain, or its membranes. In most cases, the spinal cord or its membranes are involved in the inflammation. Under drug treatment, this disease is very likely to terminate fatally; but under hygienic treatment, most patients recover.

SYMPTOMS.—This disease usually manifests itself very suddenly, though not always. The individual may be apparently well, yet within an hour be taken with a severe chill, accompanied by dizziness, intense headache, and vomiting, quickly followed by feverishness, and mental prostration; often there is delirium. There is extreme depression of the physical powers, sharp pains with stiffness

of the muscles of the neck and back, and the head and neck are drawn backward. The headache becomes incessant and most distressing, the countenance, pale, anxious, and pinched; and there is restlessness and mental confusion.

The tongue, pulse, and temperature, may not be much changed at this stage, and the bowels may be either loose or costive, generally the latter. As the disease progresses, the pulse becomes hard and quick, cramps and spasmodic contractions of the muscles occur in various parts of the body, and the jaws sometimes become locked, the patient is disturbed in his sleep, starting up every few minutes in a state of wild delirium. About the fifth or sixth day, the pulse becomes more frequent, the eyes are bloodshot, the tongue is dry and shining, or brown and covered with what appears to be dirt, an eruption generally appears which may vary in form and color. It is this eruption that gives the disease the name of spotted fever. The patient has less consciousness. A heavy stupor sets in, which if deep is very unfavorable; the patient becomes tremulous; the vision becomes imperfect or fails, in which case the pupils are expanded. There is difficulty in swallowing; the *fæces* and urine may pass involuntarily. Of fatal cases, three-fourths die before the tenth day, and one-third, within forty-eight hours. The most dangerous time is between the second and fifth days.

With those who survive, the process of recovery is slow, and unless the patient is careful, there is danger of a relapse. The severity of this disease depends wholly on the condition of the patient. If he is vigorous and not gross, it will be light; but if his vitality has become somewhat exhausted before the access of the disease, it will be more severe; and if, in connection with this weakness, the patient is very gross, it will probably prove fatal.

TREATMENT.—In this disease, there is an excessive accumulation of blood in the brain and spinal cord and their membranes, where it has stagnated; and a deficiency of blood in the limbs and extremities. Therefore, the hot bath will be found serviceable. It should be given as hot as the patient can bear, about 102° to 110° , two or three times a day. A convenient mode is to give a hot sitz-bath for ten minutes, followed immediately by a hot pack for thirty or sixty minutes, using a thick woolen blanket instead of a cotton sheet. The blanket must be applied as hot as the patient can bear, and followed by a tepid sponge-bath. Two or three times each day, early in the morning, at noon, and in the evening, apply very hot fomentations, alternated every five or eight minutes with ice-cold applications, to the spine and head for thirty minutes, always beginning with the hot and ending with the cold; at the same time give a hot foot-bath. In mild

cases, sitz-baths and dripping-sheets at a temperature to suit the feelings of the patient may do, but the hot treatment indicated above is preferable.

As the patient recovers, the treatment may be reduced to a dripping-sheet or a sponge-bath three times a week, the diet in the meantime being quite light. See Diet for the Sick.

There are several other forms of symptomatic fever, which will be noticed in connection with the diseases of which they are symptoms. We will next notice that class of fevers known as eruptive fevers.

SMALL-POX—VARIOLA.

The small-pox is a contagious, eruptive fever, caused by the reception into the blood of a specific poison. There are four stages to the disease. The first, which is called the period of incubation, usually lasts about twelve days. It varies, however, running from six to twenty days, during which time there are no symptoms of indisposition. Then the disease commences with lassitude, headache, pain in the back, vomiting, and shivering, followed by fever, which is called the primary fever.

This constitutes the second stage. About the third day of the fever, an eruption makes its appearance, first on the face, then on the neck and wrists, next on the body, and lastly on the lower

extremities. It is generally two or three days extending over the entire body. Occasionally the eruption appears first on the extremities, but this is the exception. Sometimes the mucous membrane of the mouth and throat is covered with the pustules.

The eruption first appears as minute red points which gradually enlarge for about five days, at the end of which time they are in the form of a hemisphere, resembling a split pea in size and shape. Some of them, however, are larger, while others are smaller.

About the third day after the eruption appears, the face becomes very much swollen and the patient is delirious. The pimples now begin to contain a clear, watery fluid which assumes something of a milky appearance in about two days, and which, by the eighth day of the eruption, becomes converted into yellow pus. As the pimples enlarge, they are called pustules—from the pus they finally contain. Each pustule is surrounded by a highly inflamed red margin about the tenth or the eighth of an inch wide.

At the end of the third stage, or about eight days after the eruption appears, the pustules break and the pus dries, forming crusts, or scabs, which fall off in four or five days more. The last period constitutes the fourth stage.

A secondary fever sets in about the time the scabs begin to form, the primary fever having

subsided about the time the pimples began to fill with water. The secondary fever usually subsides by the time the scabs fall off.

When small-pox manifests itself as above described, it is said to be of the distinct variety, each pustule being by itself. If the patient's blood is very gross at the time he is taken with this disease, all the symptoms will be much aggravated as the disease is much more severe, the fever is more violent, the eruption comes out earlier, the pimples on the face and on parts of the body run together, forming large blisters containing a brown, watery fluid, while those on the body are pale, having no red margin, and no yellow pus forms in them. When the pustules break, large brown or black scabs are formed. The tongue, roof of mouth, inside of nose and throat become covered with small pustules. The throat is very sore, and there is difficulty in swallowing and in breathing. The fever does not fully disappear when the eruption comes out. In this case, the disease is called *Confluent Small-pox*. The second variety is generally fatal under drug treatment.

The contagion of small-pox may be communicated at any time after the fever sets in until the scabs fall off, and by the dead body as well as by the living.

TREATMENT.—As soon as it is known that a

person has been exposed to small-pox he should commence treatment, and adopt a hygienic diet. See Diet for the Sick. He should be careful not to overdo, and should take a tepid bath, either the sitz-bath or the dripping-sheet, every alternate day, and he should keep his mind perfectly calm. The bowels must be kept free with enemas, if necessary, and; if the weather is suitable, he should be much in the open air. As soon as he begins to feel symptoms of fever, he should take a sweat-bath either the hot sitz, hot-air, or vapor-bath. As soon as the sweat starts, he should wash off with cool water and wipe dry, and then retire to bed. There should be no carpet on the floor, nor curtains to the bed nor to the windows, and the room must be kept well ventilated by opening the windows. A draft should not strike the patient, however. Light and fresh air are very important in this disease. Without them the patient must die.

When the hot stage arrives, the patient should be frequently bathed in cool water, and a cold, wet cloth should be kept on his head. His feet must be kept warm. If his bowels are constipated—as they generally are—move them once a day with a tepid enema. As long as the preternatural heat keeps up, sponge the body with cool water, or apply cool cloths, renewing them frequently. Keep the room cold at all times. Let the patient drink freely of cool water or

lemonade. After the pustules begin to dry up and the secondary fever sets in, bathe the patient with tepid water once a day and sponge the surface occasionally. After the pustules make their appearance, it will be necessary to give the patient nourishing food in small quantities three or four times in the day, if he desires it so often, but caution must be used, however, lest the patient should overeat. He should have gruel or porridge made of corn, wheat, or oatmeal, with a little milk or cream. Toasted bread, baked apples, or food similar to the above is admissible. Carbolic acid should be sprinkled in the room daily. Cleanliness must be observed to insure recovery. To prevent the face from pitting, bathe it several times a day with sweet oil or glycerine, and admit the sunlight into the room freely; but do not let the direct rays strike the patient's face, as it would cause pain in the eyes. When the pustules on the face break, flour or powdered starch should be sprinkled over it to exclude the air and thereby prevent pitting.

With drug treatment about one in three or five die, and sometimes as many as three in eight, while with the hygienic treatment not more than one in ten or fifteen. In my practice under the hygienic system I have lost but one in eleven.

PREVENTIVE MEASURES.—Do not burn the clothes, but bury them in dry earth. The earth

will absorb the poison, but fire will not destroy all of it. Disinfect the room by chlorine gas or by the free use of carbolic acid and a free circulation of air.

Those who live strictly hygienically will be far less liable to this disease than those who live otherwise; and if they have it, it will not prove as severe as under other circumstances. Small-pox usually occurs but once.

VACCINATION.

This is performed for the purpose of modifying or preventing small-pox, but it is doubtful whether it is of any real benefit. I have treated small-pox in families where part of the children had been successfully vaccinated two years previous, and a part had never been vaccinated. In these cases I could discern no difference except that two of those who were vaccinated had it the most severe, while some who had never been vaccinated had it very light. The advocates of vaccination are agreed that revaccination should be resorted to at every appearance of small-pox as an epidemic. It is well known that some of the most loathsome diseases have been propagated by vaccination, and that scrofula has been induced thereby, and even syphilitic diseases have been transmitted. I cannot conscientiously advocate vaccination as practiced generally, neither would I oppose vaccination under every circum-

stance. I would say to the reader, if you are going to vaccinate yourself or friends, be sure you do not introduce other diseases; know where the matter used comes from and that it is from a young, healthy cow or from the arm of a babe that is healthy and whose parents are healthy. Owing to the uncertainty of obtaining good material I should hesitate before advocating vaccination.

CHICKEN-POX—SWINE-POX.

This disease may be said to consist of an eruption of small rose-colored pimples, which appear at the end of twenty-five hours from the commencement of a mild fever. On the second day the pimples are filled with a transparent or yellowish fluid and are surrounded by slight redness. About the fourth day scabs are formed. The eruption usually disappears the fifth day. This disease is slightly contagious, the period of incubation lasting about four or six days. This disease usually occurs but once.

TREATMENT. — Give a warm enema, and a warm bath or wet-sheet-pack daily, and free ventilation.

MEASLES.

This is a contagious disease that usually occurs but once. It is contracted by breathing air containing the germs or contagion that have escaped

from those who have the disease. The period of incubation, or the time from exposure till the disease appears, is usually from nine to fourteen days.

SYMPTOMS.—The early symptoms consist of lassitude, shivering, feverishness, catarrh, running at the nose, a dry, hacking cough, with hoarseness, difficult breathing, and sneezing. Soon there is swelling of the eyelids, the eyes become watery, and there is intolerance of the light, drowsiness, great heat of skin, a frequent and hard pulse. Headache and pain in the back frequently occur, also nausea, with retching. The eruption appears on the fourth day usually, sometimes a day or two later. It consists of little dots, and resembles flea bites. These gradually run together into small blotches, which are semicircular in shape and of a red color, and rough to the touch. These points do not become pimples, as they contain no fluid. The rash appears first on the forehead and extends downward. It begins to disappear on the seventh day. The fever does not abate on appearance of the rash, as in small-pox.

With proper treatment, measles is not a dangerous disease, unless the patient's system is very foul, in which case there would be an aggravation of all the symptoms, and especially of the chest and throat difficulty. The eruption would be of a dark color and appear earlier, often receding

and re-appearing. The last form is known as black measles, or malignant measles.

TREATMENT.—In the mild or red form, give two or three cool or tepid packs each day until the fever subsides. Large wet cloths frequently spread over the patient's body and limbs will answer as well if the fever is slight. Tepid water only should be applied after the eruption appears.

If the eruption is suddenly repelled, a hot pack should be given immediately. Free the bowels with a warm enema. Keep the room moderately warm, but well ventilated. If there is much soreness in the throat or much inflammation in the lungs, apply hot fomentations over the parts twice each day for thirty minutes, alternating the hot cloth with a cold one every five minutes. The black or malignant variety should be treated precisely like putrid fever, which see.

SCARLET FEVER—SCARLATINA.

This is a contagious disease which makes its appearance in from four to six days after the contagious poison has been received into the system. It seldom occurs more than once.

This fever is attended through some part of its course by a rash and by a sore throat, these being the two main features of the disease. When the rash and the sore throat are both well developed, the disease is called scarlatina anginosa. In other cases, there is a very marked development

of the rash, with but little or no affection of the throat, and is known as scarlatina simplex. In still other cases, the throat is very seriously affected, when the disease is known as scarlatina maligna, and as putrid sore throat.

SYMPTOMS.—This disease commences the same as any ordinary fever, with the exception that there is a soreness in the throat, the pulse is frequent, the skin soon becomes hot, and the patient finds it difficult to swallow, and is restless and wandering at times. The eruption usually appears on the second day in the form of numberless bright red points, first on the neck and arms, then on the body, and lastly on the legs. The eruption may all come out in one day, though it is usually two or three days reaching its height. The mucous membrane of the mouth and throat becomes inflamed, and, in the malignant form, very much ulcerated, or even putrid. The tongue is white, with red points projecting through the white portion like seeds in a strawberry. The tip and edges of the tongue are red. The soreness of the throat and stiffness of the neck are about the first symptoms.

In the malignant form, the eruption is dark-colored, the pulse is feeble, the skin is cold, and the throat extremely sore, the patient being scarcely able to breathe. When treated with drugs, the disease, especially of the malignant form, very often proves fatal; and of those who

recover, the most are affected for life with some chronic difficulty, said to be a sequela of the fever, but in reality of the drugs, for no such sequela ever occurs when treated as directed here, neither is it a fatal disease in the majority of cases.

TREATMENT.—In the mild form, this disease should be treated according to directions for simple fever and the treatment of fever in general. The throat, however, should be wrapped about with a cold compress, using ice in the water, if it can be obtained. In the malignant form, if the fever is high, the cool pack or cool bath should be constantly applied until the heat is reduced, or it may be reduced by applying warm or even hot applications, as the water evaporates more rapidly. The feet must be kept warm at all times. The hot bath at 105° may be given two or three times a day for fifteen or twenty minutes at a time at the commencement of the disease. Very hot fomentations, alternated every five minutes with ice-cold compresses should be applied to the throat every hour for a half hour at a time, with ice water to the throat at all other times, until the fever is subdued and the soreness in the throat is relieved. Ice may be eaten and sips of ice water taken freely. In other respects, treat simple scarlatina as simple fever, and malignant scarlatina as putrid fever.

ERYSIPELAS.

There are two varieties of this disease, the red and the black, the former occurring in persons whose habits are not gross, the latter, in those who live grossly and whose blood and flesh are filled with impurities.

No part of the surface of the body is exempt from this affection, but the skin of the head and face are most subject to it. In cases which arise from wounds, the erysipelas commences at or around the seat of the injury.

SYMPTOMS.—This disease is ushered in with the symptoms of an ordinary fever, sore throat being an early and frequent accompaniment of it. On the second or third morning after the chill, redness and swelling appear on some part of the skin, frequently on one side of the nose, spreading to the rest of the face, and often extending over the scalp, neck, and shoulders. The face soon becomes so swollen that the eyes close, and all traces of the natural features are lost. There is more or less general fever, with excessive heat in the inflamed part.

In the red or mild variety, the inflamed part is of a florid or bright-red color, while in the black or putrid variety, it is of a livid or dark bluish-red color.

TREATMENT.—Give the patient two or three warm or tepid packs daily until the heat is re-

duced. The bowels should be freed at the outset of the disease by a warm enema. The patient should be allowed to drink freely of cold water, and must occupy a well-ventilated room.

Hot fomentations, alternated with cold compresses every five or eight minutes, should be applied for thirty minutes to the swollen parts three or four times each day. In the putrid form, tepid wet clothes, or tepid spongings, may be applied to the body constantly until the fever is reduced, instead of so many packs. For diet, see Diet for the Sick.

NEURALGIA.

Persons affected with chronic disease, especially dyspepsia, are liable to have pain in the nerves, yet the disease that occasions the pain may be remote from the seat of the pain. Facial neuralgia, is generally occasioned by decayed teeth, which should be removed.

Neuralgia in the abdomen or loins is generally occasioned by inflammation or displacement of the pelvic organs.

Sciatica very often results from pressure upon some part of the nerve, such as is produced by accumulation of hardened fæces within the lower bowel, or from inflammation of the sheath of the nerve, or from overwork, exposure to cold and wet, and occasionally from rheumatism.

TREATMENT.—When the neuralgic pains are

severe, a hot fomentation should be applied to the part for a few minutes, after which, it should be alternated with the cold compress every eight minutes for a half hour.

In treating sciatica, the hot sitz-bath or hot fomentations, followed by cold compresses or the cold douche to the part, will give relief. Dripping-sheets, spray-baths, or the hose-douche are all applicable. In all neuralgic affections the general health must be attended to, and every local difficulty remedied by proper treatment.

LOCAL DISEASES.

Under this head will be presented those diseases whose primary seat is in some special organ or part of the body. These diseases may be either acute or chronic. In the acute form, the disease is rapid and the symptoms prominent. In the chronic form, the disease is of the same nature as in the acute, but it develops itself much more slowly and its symptoms are much less marked.

If it were possible to gather all of the symptoms, pains, and aches, which occur in a few months in a chronic disease, and condense them, we would find them equal in amount and severity to those that would occur in a few days in the acute form of the disease.

In treating acute diseases, we should be prompt and energetic in adopting measures that will give

immediate relief and check the violence of the disease. But in treating chronic diseases, great perseverance will be required, as the treatment, to be successful, has to be directed to equalizing the circulation, relieving internal congestion, forming new habits, and, as it were, building the body anew; and all of this requires time. As a general rule, there is no difficulty in treating acute diseases successfully at home; the patient, being unable to work or have care, dismisses all business but that of getting well, consequently receives the full benefit of the treatment.

In chronic difficulties, the case is different. The patient is able to do some work, and seeing enough to be done, either works so much that the treatment does no good, or worries because the work is improperly done by others, or because it is neglected. The result is the same in either case, as the patient can derive little or no benefit from treatment taken under such circumstances.

Such being the facts, the very best thing any chronic invalid can do will be to go to a hygienic institute and take treatment for a while. In most cases, three or four months' stay at a good health institution will be sufficient to effect a cure.

INFLAMMATION OF THE BRAIN.

In this disease, the membranes only may be inflamed, which is generally the case, or the substance of the brain only, or both. So far as treat-

ment is concerned, it matters not which part is inflamed, for the treatment is the same in either case.

This disease is essentially the same as that already described as brain fever, the only difference being that in this there is less inflammation and less fever, consequently the symptoms are less violent.

TREATMENT.—See Brain Fever, and treat as there directed.

CONGESTION OF THE BRAIN.

This may be acute or chronic. It consists in a rush of blood to the various organs within the skull. It is always accompanied with a sense of fullness and pain. If unattended to, the congestion may lead to serious consequences, such as a leakage of the watery portion of the blood from the small blood-vessels and capillaries, thereby causing dropsy of the brain—hydrocephalus. Or it may lead to brain fever or apoplexy, by the leakage of blood.

CAUSE.—Congestion of the brain may be caused by anything that unbalances the circulation, such as exposure to sudden heat or cold, improper food, impure air, cold feet, constipated bowels, an overloaded stomach, undigested food retained in the stomach, or by prolonged brain labor.

TREATMENT.—Remove the cause, if in the stomach, by warm-water emetics; if in the bowels, by

enemas; if it is caused by excessive or prolonged mental labor, take exercise in the open air. If caused by a recent cold, take a hot sitz and foot-bath, followed by a dripping-sheet. If the disease has become chronic, take a warm sitz and foot-bath daily or every other day, for five or eight minutes, at 92° or 95° , then cool the water to 80° and continue the bath for three minutes. Wet the head with cold water before taking the bath. In many cases, hot fomentations applied to the head and alternated with cold every five or eight minutes, for a half hour, will give relief.

DROPSY OF THE HEAD—HYDRO- CEPHALUS.

This is a slow inflammation of the membranes of the brain in which water is thrown out into the ventricles—cavities—of the brain, and into the spaces between its convolutions or folds. The head frequently becomes enormously large, the bones separating to make room for the enlargement. It is a disease of childhood.

SYMPTOMS.—Sometimes this disease exists at birth; if not, the symptoms will be manifest about the sixth month. The child may take its food regularly, yet it does not thrive, and in a few weeks after the dropsy sets in its body is much wasted, the head appears large, the face small, the forehead prominent and heavy, the eyes protrude and are directed downward. The child is irritable and feverish, and manifests a

dislike to light and noise. It has headache and nausea, and its fæces are dark-colored and offensive, and it has frequent pain in the abdomen.

TREATMENT.—Nothing can save the child unless the disease is detected early, and the treatment commenced immediately. Keep the bowels free with enemas, and by frequently rubbing and kneading them. Give a tepid sponge-bath daily; keep the room well ventilated, and give the child a nourishing diet. Apply cool water to the head daily by pouring it from a pitcher or by bathing it with a sponge. Keep the extremities always warm. Let the child sleep soundly at night.

APOPLEXY.

This word signifies a fit of sudden insensibility. There is a complete loss, for the time, of all consciousness and sensation, and all power of voluntary motion.

CAUSES.—Whatever induces congestion of the brain may cause it, for the insensibility is caused by pressure on the brain. Intoxicating liquors, tobacco, opium, great heat or cold, sudden excitement, blows or injuries on the head—any of these may occasion the disease, especially if the person is plethoric or full-blooded, such persons being peculiarly liable to it. This disease resembles drunkenness and narcotic poisoning. In drunkenness, the smell of alcohol is always present, and it may be in apoplexy if the patient indulges in

its use. The habits of the patient, if known, as they certainly will be in the home circle, will assist in making out the character of the disease.

TREATMENT PREVENTIVE.—A person who has a tendency to apoplexy must avoid all excitement and over-exertion, all stimulating substances, extremes of temperature, straining at stool, tight neck-ties, and hot baths. He must partake of food sparingly, sleep on a mattress with the head elevated, and in a cool and well-ventilated room. He should take moderate exercise daily in the open air, and should keep his bowels free. The head should be bathed daily with cool or cold water. When dizziness, headache, throbbing of the temples, or nose-bleed occurs, he should abstain from food for one or two meals. Such are preventive measures.

TREATMENT CURATIVE.—As soon as the fit occurs, place the patient in a sitting posture, loosen all the garments about the neck and chest; place hot wet blankets about the feet, limbs, and abdomen, and renew the heat frequently; place pounded ice in a bladder or a bag on the head, or pour cold water on the head for twenty minutes several times a day, until consciousness returns.

SUN-STROKE.

This disease is similar to apoplexy. It usually follows exposure to the direct rays of the sun in a hot day.

SYMPTOMS.—Faintness, thirst, great heat, dryness of the skin, with prostration. Dizziness is frequently complained of, also a sense of tightness across the chest. The action of the heart soon becomes violent, and the patient sinks into a state of insensibility.

TREATMENT.—The same as in apoplexy.

INSANITY.

This disease is one of the most distressing to contemplate of any to which flesh is heir. It is unnecessary to enter into a detailed account of the many varieties or modifications of the disease. It consists in a functional or organic disease of the gray matter of the brain, which manifests itself in a derangement of the mental functions, so that the patient perceives and thinks unreasonably. The disease may exist in any degree of intensity from a very slight departure from sanity to total aberration of all the perceptive and intellectual faculties.

TREATMENT.—This disease should be treated early to insure the recovery of the patient.

The patient should have a diet of the best and most wholesome articles of food in good variety. He should not be crossed in his whims, nor contended with, neither should he be confined, nor should mechanical or physical force be used unless he be violent or dangerous. On the contrary, he should be humored when not incom-

patible with moral principle. He should have warm clothing, out-door occupation, amusements, sound sleep at night, and his bowels should be kept free. Attention should be paid to prevent the exercise of bad habits, secret vice, etc. A constant effort should be made to promote cheerfulness. The warm bath in any form should be given two or three times a week; followed by the cold douche or cold dripping-sheet. If the patient is weak, give a tepid bath, followed by a cool douche. If the patient is strong, he may take a hot-air or vapor-bath once a week in addition to the above. The cool or cold head-bath should be taken daily, and the feet should be always warm. Occasional wet-sheet-packs in place of any of the above baths would be serviceable. In many of the States, the public asylums are so conducted that those who cannot be restrained at home would fare better, and have a better chance to recover there, than if treated at home.

HEADACHE.

This may be caused by inflammation of the brain or its membranes (see under head of Brain Fever, and Inflammation of the Brain), or it may be caused by plethora (see Plethora), or by errors in diet, or the use of tea, coffee, tobacco, and stimulating drinks, or by hunger, or constipation.

TREATMENT.—Remove the cause, correct the

habits, and treat as directed for chronic congestion of the brain.

VERTIGO, OR DIZZINESS.

In advanced life, this difficulty, if frequent, is symptomatic of disease of the brain in its first stages. It may, however, be caused by poison in the system, such as tobacco, alcoholic liquors, opium, or by some irritation of the stomach, or of the intestines, or some disturbance of the liver, or kidneys, or of the heart, or, in women, by uterine hemorrhage. It is also caused by sexual excesses.

TREATMENT.—This will depend somewhat on the cause, which must be ascertained and removed if possible. If it is caused by any wrong habit, that habit must be corrected. The cause is some local disease, such as disease of the liver, etc. Treat the local disease as directed under proper heading. The general treatment is the same as for headache and congestion of the brain, which see.

ACUTE INFLAMMATION OF THE EAR.

SYMPTOMS.—Heat, pain, and irritation of the external ear, if that is the inflamed part.

TREATMENT.—Hot fomentations, followed by a cold compress, and a hot sitz-bath and foot-bath followed by a cool bath in connection with the fomentation.

If the internal ear is inflamed, there will be a distressing sense of fullness, painful throbbing, general nervousness, and deep-seated pain; loud noises are heard at times. If the inflammation is not checked, the eyes become red, delirium sets in, followed by fever of typhoid character; supuration soon follows, which usually destroys the hearing.

TREATMENT.—The same as above, and in addition, the patient should fast for a short time, and the cold head-bath should be freely used, until the heat in the head is subdued. The accompanying fever should be treated as directed in General Treatment of Fever.

CHRONIC INFLAMMATION OF THE EAR.

SYMPTOMS.—A prolonged discharge from the ear.

CAUSE.—Scrofula, maltreated eruptive fever of any kind, etc.

TREATMENT.—In treating all forms of foul discharges from the ears, first attend to the general health. The food must be free from all grease, butter, salt, vinegar, and condiments of all kinds. It should be composed of a good variety of fruits, grains, and vegetables, cooked in the most wholesome manner. Derivative and tonic baths should be administered three times a week. These should consist of the dripping-sheet, the half-bath, or sitz-bath, or the spray-bath, or packs. The

patient's body should be daily rubbed with the dry hand.

E A R A C H E .

This difficulty may be caused by inflammation, or by insects or some foreign substance within the ear, or it may be a nervous affection.

TREATMENT.—Foreign substances may be removed from the ear by holding the head in such a position that the affected ear is downward, then with a small syringe inject warm water into the ear. In other cases, it may be necessary to remove the substance with forceps. Vermin or insects in the ear may be destroyed by introducing soap suds containing a drop of carbolic acid to a table spoonful of water, or the ear may be filled with sweet oil, and the vermin will slip out. If the pain continues, give either the sitz-bath, the hot-air-bath or vapor-bath, and a hot fomentation over the ear.

INFLAMMATION OF THE EYES.

The eyes are subject to a variety of diseases, most of which may be comprehended in the word inflammation. This may be acute or chronic. This inflammation may result in granulated lids, purulent discharges, specks and opacities, ulcers, tumors, and partial or total blindness.

TREATMENT.—In acute inflammation, keep the eye shaded from the light, but allow it a free cir-

culatation of air. Apply fomentations, followed by cold compresses once a day, and frequent cold applications daily or until the inflammation is subdued. Treat the attending fever the same as fevers in general. Keep the feet warm. In the chronic form, treat the patient constitutionally. See Constitutional Treatment. Bathe the eyes frequently in tepid water, and once or twice a week apply hot fomentations alternated with cold. See Fomentation. There may be cases in which it may be necessary to remove the granulations with caustics, but this should be avoided if possible, and should only be done by an oculist. If hairs growing inward cause the inflammation, they must be extracted.

INFLAMMATION OF THE MEMBRANES OF THE SPINAL CORD.

Acute inflammation of the membranes of the spinal cord seldom occurs; but when it does, it may be known by an acute burning pain along the spine extending into the limbs. This pain is similar to rheumatism, and is aggravated by motion or pressure. There is always a high fever, with sleeplessness. After a little, the muscles of the neck and back become permanently contracted.

TREATMENT.—Apply heat and cold alternately to the spine as in giving fomentations, and treat the fever as directed for fevers in general.

INFLAMMATION OF THE SPINAL MARROW.

When the spinal marrow becomes inflamed, some form of paralysis follows. If the upper part of that portion within the skull is inflamed, there is deep-seated headache, convulsive movements of the head and face, inarticulate speech, spasmodic closure of the mouth, difficulty in swallowing, spasmodic breathing, and paralysis of one side of the body, or of the upper half of one side. When the inflammation is in that portion of the spinal cord that is within the neck, there will be acute pain in the back of the neck, shortness of breath, difficulty in swallowing, impossibility of raising or supporting the head, a prickling sensation in the hands, and paralysis of the upper extremities.

When that portion of the cord within the upper portion of the back above the attachment of the lowest ribs, is inflamed, there is pain in that portion, and numbness or prickling sensations in the fingers and toes, convulsive movements of the trunk of the body with paralysis of the arms and lower extremities, short and laborious respiration, palpitation, etc.

If the inflammation is in that portion within the small of the back, there is pain there, and also in the abdomen, with a sense of tightness as of a cord drawn tightly around it. There will be

convulsive spasms, or paralysis of the bladder and lower bowel, causing retention of urine and faeces at times, or they will be voided involuntarily. There is also severe paralysis of the lower extremities. The pain in the affected part of the cord in this disease is less severe than in inflammation of the membranes of the cord. The pain is increased by the application of heat to the part and by firm pressure. The loss of sensation in the palsied limbs is complete.

TREATMENT.—Apply ice water or ice to the spine, or, if the severity of the pain will permit, apply hot fomentations alternated with ice-cold compresses. Pounded ice in a bladder is the best way to apply cold to the spine, unless rubber bags can be procured. Give hot foot and leg baths to draw the blood to those parts, and treat the fever, if there is any, the same as though it were the only disease. This disease is usually caused by exposure to cold or damp, or by wounds and bruises. A slight degree of inflammation, or severe inflammation in a small part of the cord may arise from a sudden jar of the cord, produced by a fall, or by jumping. Whenever from any cause the spinal cord gives evidence of injury by severe or heavy pain in the cord that is caused by wounds or jars, the patient should immediately retire and apply a hot fomentation for ten minutes followed by cold applications for twenty or thirty minutes. He should then

take a warm half-bath daily and keep the feet warm.

PARALYSIS.

This may be confined to a single set of muscles, or it may extend to a part of the body, or to one-half of it, or even to the entire body.

The paralysis is symptomatic of some difficulty with the spinal cord, or brain, or both. As already shown, inflammation of the cord or brain may occasion paralysis, so also may lack of blood or nourishment in the cord.

TREATMENT.—In recent cases, if the paralysis is caused by inflammation of the cord, treat as directed under head of Inflammation of Spinal Cord. In paralysis that has come on slowly, or that is of long standing, give the patient nourishing diet, airy bedroom, plenty of sunshine or sun-baths, and give the Swedish movements, which consist in passing the limb or body through all its natural motions, and in kneading and rolling the flesh under the hand, percussing it with the edges of the hand, or slapping it with the flat of the hand. Electric-baths, shower-baths, dripping-sheets, spray-baths and cool sponge-baths, may any of them be used three times a week. The surface and extremities must always be kept warm.

All paralytic patients should resort to a first-class health institute, such as the one in Battle

Creek, Michigan, as soon as they are paralyzed. Only about one in five can be cured under any system of treatment.

CONVULSIONS.

Convulsions are symptomatic of disease of the brain, spinal cord, and nerve centers. The real disease may be any condition which suddenly arrests the nutrition of the brain, cord, or nerve centers, such as hemorrhage within the skull or spinal column, a blow on the head, loss of blood, a stoppage of the circulation of the blood, strangulation, or want of air to purify the blood, impure blood, a needle or pin pricking the flesh, the presence of indigestible food in the stomach, worms in the intestines, teething in children, or a continued diarrhea.

TREATMENT.—To bring the child out of the spasm, set it in a shallow cool or tepid bath, and with the hand apply cold water to the spine, or set it in a cold bath and apply cold to the spine. If undigested food in the stomach is the cause of the convulsions, give a warm-water emetic. If worms are the cause, give a more wholesome diet. If the patient is an infant, the diet should be as directed in Diet for Infants, in Part I. Free the bowels from worms (see under head of Worms), and then treat as directed under head of Constitutional Treatment. If the convulsions are caused by teething, give the

child something hard to bite, like an ivory or rubber ring, and treat constitutionally.

The garments should always be loosened and all the clothing about the neck removed as soon as the convulsion comes on. When it cannot be definitely ascertained of what disease the convulsion is a symptom, it may be taken for granted that the constitutional vigor of the person is at fault, and the treatment should be constitutional as above directed.

EPILEPSY.

The causes of this disease are nearly the same as the preceding. We might add, however, the following: defective organization, a malformed head, injury of the head, debauchery and drunkenness, sexual excesses, and the poisoning of the blood by medicines given in treating acute rheumatism, scarlet fever, and various other diseases allopathically.

TREATMENT.—During the fit, lay the patient on the floor, and loosen the clothing about the throat. Nothing more is required. After the spasms have ceased, let the patient sleep as long as he is inclined to. During the interval, the patient must have constitutional treatment. See Constitutional Treatment.

H Y S T E R I A .

This disease is caused by anything that impairs the nervous organism. It occurs in both males and females, but most frequently in females, beginning at, or soon after, puberty, and in many cases continuing through life. The chief cause of hysteria is vacancy of mind, that is, want of occupation. Those persons who have an object in life, something to accomplish, are generally too much occupied to have hysteric fits, while those who have nothing to do or to think of except self, soon induce a morbid condition of mind that manifests itself in hysteria.

SYMPTOMS.—Convulsive movement of the body and limbs, violent beating of the breasts, tearing the hair or garments, violent agitation, shrieks, and a sensation as of a ball rising upward from some part of the body to the throat, causing suffocation and convulsions. The attack ends with tears or convulsive outbreaks of crying or laughter. This disease does not always manifest the same symptoms.

TREATMENT.—To bring the patient out of the fit, apply cold water to the head and spine. To prevent the return of the fit, keep the patient's mind so occupied that self will be forgotten. Give constitutional treatment.

SLEEPLESSNESS.

Sleeplessness is simply over-activity of the brain. Wakefulness or disturbed slumber may be caused by care, trouble, overwork, late suppers, indigestible food, reading or hearing exciting stories, especially in the evening, and by occupying the mind with business matters in the evening or latter part of the day.

TREATMENT.—Eat no hearty meal in the after part of the day, neither read nor allow the mind to become excited, nor contemplate any sad or melancholy theme, nor transact or think about any business in the latter part of the day or evening. Retire to rest at a regular hour, in a quiet and well-ventilated room. Do not sleep on feathers, but use a mattress instead. Do not sleep under too many bedclothes, and have no curtains about the bed. In the evening, take a bath for three or five minutes at from 92° to 98° ; wipe dry, and retire immediately. Or take a tepid sponge-bath, or a warm foot-bath, or place a bottle of hot water to the feet on retiring. Anything that will draw the blood away from the brain will induce sleep, therefore a cold, wet head-cap is useful, especially if the head aches.

A sitz-bath at 98° or 100° , for ten minutes, just before retiring, or a hot fomentation applied the entire length of the spine, for fifteen minutes, will often induce sleep. In case the patient is

dyspeptic and is kept awake by indigestion, apply the hot fomentations over the stomach for a few minutes after retiring.

C A T A R R H .

This disease consists of an inflammation of the air passages. It may be confined to the nostrils and cavities connecting with them, or to the windpipe, or it may extend down into the smaller air tubes in the lungs. This disease is more common than any other. It arises from too sudden change of atmospheric temperature, or from exposure to wet and cold when the strength is exhausted. Catarrh is simply a common cold. It may be acute or chronic. If acute, there will be a running at the nose, and if the windpipe is implicated, there will be more or less irritation or soreness in the inflamed part of the windpipe, and a cough more or less violent.

In chronic catarrh of the head, the fluids that are thrown out are quite thick and viscid, and of a yellow or greenish color. This dries in the nostrils, or passes backward into the throat, or both of these events may occur.

TREATMENT.—If the catarrh is recent, take any form of a hot bath once or twice a day, and abstain from food for one or two meals, or eat very sparingly for a few days. In the chronic form, live on a strictly hygienic diet, eat two meals a

day regularly, and no more, and follow the directions given for constitutional treatment.

INFLUENZA.

This disease differs from catarrh only in being more severe and in being epidemic.

SYMPTOMS.—Heat, and dryness of the skin, severe frontal headache, a constant running at the nose, sneezing, soreness in back part of the mouth—the fauces—hoarseness, a harrassing cough, perverted taste, and disordered stomach.

TREATMENT.—Give any form of a hot bath, followed by a cool bath; or give a hot wet woolen sheet pack, or a hot half-pack once a day, with cold applications to the chest and throat at all other times, or a warm sitz and foot-bath may be given daily with a hot fomentation, for twenty minutes, followed with cold over the chest and throat until the severity of the symptoms is over.

DISEASES OF THE MOUTH.

Inflammation of the Tongue seldom occurs except as a result of taking mercury. Whenever the tongue is inflamed, apply ice to it, and give warm sitz and foot-baths freely. If suppuration occurs, open the abscess with a sharp knife or lancet.

Ulcers of the Tongue. Treat these by a careful and abstemious diet, free from all grease

and condiments. Use gargles of borax, or cover the ulcers with borax and glycerine, or touch them with sulphate of copper (blue vitriol), or sulphate of zinc (white vitriol). Gargle hot and cold water alternately, and take a warm bath daily.

Canker of the Mouth. Treat the same as ulcers.

Thrush. This disease consists of small, round, white, elevated specks or patches scattered over the tongue and lining membrane of the mouth. It often extends down the œsophagus, or meat-pipe, into the stomach, in infants. The treatment of thrush should be a tepid bath three times a week, tepid injections to free the bowels if they are hard or swollen, and small cool injections daily, and the cool abdominal girdle may be worn if there is a diarrhea. Feed infants as directed in Part I.

Decayed Teeth. Have these filled with metal without delay. Patronize none but responsible dentists, if you wish the work well done. To prevent decay and preserve your teeth, use no hot food, or hot drinks, and eat no ice-creams or other frozen food. Use graham bread and crackers. The more hard food there is eaten, the harder and stronger the teeth will become. The food should be thoroughly masticated.

Toothache. The hot foot-bath or sitz-bath will

often give relief. Sometimes it is necessary to apply hot fomentations to the face and the teeth. The hot-air or vapor-bath will give relief.

M U M P S .

This disease consists in an inflammation of the parotid glands. These glands are situated on either side of the head, immediately in front of, and below, the ear.

SYMPTOMS.—At first, there is a slight disturbance, as though a very mild fever was about to set in. This is accompanied by soreness and swelling of one or both of these glands. The swelling usually extends from beneath the ear, along the neck, to the chin. The submaxillary glands—situated under the lower jaw just in front of the angle of the jaw—also become inflamed and swollen. The inflammation reaches its height in four days. As the inflammation subsides, it is not uncommon for the mammary glands—the breasts—or the testicles to become painful and swollen.

TREATMENT.—All that is required is a spare diet, with an occasional tepid or warm bath. The dripping-sheet, sitz-bath, spray-bath, half or full bath, or the wet-sheet-pack, may any of them be given. If the throat is very painful, hot fomentations alternated with cold compresses every five or eight minutes for thirty minutes should be applied. Hot poultices will often give relief. If

inflammation of the breasts or of the testicles occur, treat in the same manner.

DISEASES OF THE THROAT.

Inflammation of the Tonsils. This difficulty is known as quinsy and tonsilitis. It is common inflammatory sore throat. It is ushered in by chilliness, followed by fever. The upper part of the throat will be red and swollen, the sides of the entrance to the throat being very much swollen and frequently ulcerated. In some cases, the fever is very high, the tongue coated, and there is an abundant discharge of sticky saliva. If the inflammation is long continued, one or both of the tonsils—two glands situated on either side of the entrance to the throat—suppurate. They should then be lanced.

TREATMENT.—Free the bowels with an enema of warm water, and give a tepid pack for a half hour.

If the fever is high, treat as directed for simple fever. The special local treatment consists in the frequent application of ice-cold water to the throat inside and out, with a hot fomentation once or twice a day, followed by the immediate application of cold water. The hot foot-bath will give relief.

Diphtheria. This disease frequently commences very gradually. The patient is depressed, weak, has headache, nausea, slight diarrhea, and drowsi-

ness. The neck is stiff for several hours before the throat becomes sore. Then the tonsils and inside of throat become inflamed and of a dark color. The palate becomes so swollen that the patient cannot swallow without pain. There is next seen on the mucous membrane of the narrow parts of the upper portion of the throat, ash-colored specks which gradually enlarge and join together, forming a false membrane known as the diphtheretic membrane. This membrane thickens as the disease progresses. Death may occur from hemorrhage, suffocation, or exhaustion.

TREATMENT.—The patient should at the outset of the disease be placed in a hot sitz and foot-bath, with hot fomentations to the throat at the same time. Ice or ice water should at all other times be constantly applied to the throat externally, and sips of ice water containing bits of ice should be taken every few minutes. When ice can be held in the back part of the mouth, it is proper to do so. The hot bath should be given twice a day, and the ice applied constantly until the soreness leaves the throat. Treat the fever by giving two or three tepid packs a day for ten or fifteen minutes.

CROUP.

This disease, which results from a cold, is one to which infants and small children are subject. It consists in an inflammation of the windpipe,

and the formation thereby of a peculiar membrane which, in fatal cases, sloughs off and suffocates the child.

SYMPTOMS.—At first, the child has ringing cough, such as accompanies a common cold. In a few hours there is a shrill whistling or crowing sound produced as the child draws in its breath after a spasmodic effort at coughing. If the inflammation is not speedily checked, the child dies of suffocation. Apply cold compresses to the throat, using ice or ice water if it can be had without delay. If this is not successful, the child should be placed in a bath as hot as can be borne, and remain for from five to fifteen minutes according to its condition. On leaving the bath, ice, or ice water or cold water should be again applied to its throat continuously. Its feet and legs must be kept warm and its head cool. If the cold application does not check the difficulty in the course of an hour, apply the hot fomentation to the throat for ten minutes, then cold for five minutes. Repeat the process two or three times.

CHOKING.

This is frequently caused by the lodgement of food or other substances within the meatpipe—the œsophagus. If the mouth is opened widely and the tongue extended, the substance can generally be seen lodged above the glottis. It may

be removed with pinchers, or with a hook, or it may be pried out of its place with the handle of a spoon or a similar instrument. Failing to do this, if the patient is suffocating, the substance may be pushed down into the stomach with a smooth, round-ended rod or whalebone. If the foreign substance has been inhaled, and is lodged within the air passages, there will be at first a violent spasmodic cough, difficult breathing, and a sense of impending suffocation. After a few minutes, the violence of the first symptoms abates for a time. The cough and difficulty of breathing return at intervals however.

TREATMENT.—When the substance is lodged in the upper part of the throat, and while the coughing continues, the clogging substance may often be removed by turning the head down and the feet up, and percussing the back. If it is within the windpipe, send for a good surgeon, who will remove it with the knife, if necessary.

GOITER.

This is simply an enlargement of the thyroid gland, which becomes, in some instances, so enlarged as to cause the neck to measure upward of two feet in circumference. The swelling is usually unaccompanied with pain, and causes little inconvenience. In some cases, however, the pressure on the veins, arteries, and other organs of the neck, causes uncomfortable sensations.

This disease is caused by drinking hard water or water containing lime, magnesia, or other earthy substances, and by breathing impure air, living in the shade, and other unhygienic habits.

TREATMENT.—The first thing to be done in treating this difficulty is to supply the patient with pure soft water to drink (filtered rain water is the best), and a plain, nourishing diet, free from flesh-meats and grease, and let him be much in the open air and sunshine. The cold compress, or hose-douche, or cold water poured from a pitcher, should be applied daily to the part, also cold wet-hand rubbing over the tumor. The prolonged, tepid sitz-bath should be taken every other day. Ice applied for fifteen minutes every one or two hours, with a spare diet, will promote absorption.

CLERGYMAN'S SORE THROAT.

This is a slightly inflamed condition of the mucous membrane of the fauces, glottis, and vocal cords.

SYMPTOMS.—An uneasy sensation in the upper part of the throat, with a continued inclination to swallow, as if there were some obstacle in the way which could be removed by swallowing it. Frequent attempts are made to clear the throat by coughing, hawking, and spitting. There is also more or less pain in the larynx. The voice

changes, there is hoarseness, and sometimes toward evening a complete loss of the voice.

After the difficulty has become chronic, the fauces present a slightly raw or granulated surface, and a viscid or sticky mucus mixed with pus adheres to the palate at times.

CAUSES.—Straining the voice in vociferous preaching, lecturing, and singing, or speaking on a high key, rich, unwholesome food, with inattention to the temperature of the feet, and insufficient ventilation of the sleeping room.

TREATMENT PREVENTIVE.—Public speakers and singers may avoid this difficulty by a strict attention to the laws of life. Eat proper food, keep the feet warm, never strain the vocal organs nor speak in a hurried or excited manner, but with moderation. Bathe the throat frequently with cold water, and sleep in a well-ventilated room, and take from four to six hours' exercise daily in the open air.

TREATMENT CURATIVE.—An abstemious diet of plain, wholesome food, with a tepid sitz and foot-bath for five or eight minutes, followed immediately by a cool bath for three minutes, twice a week, with a dripping-sheet twice a week, also a hot fomentation alternated with cold every five minutes for thirty minutes applied to the throat daily for a few weeks, and a cold compress applied to it nights, with proper care of the general health, will generally effect a cure. The

vocal organs must be used properly. Always speak in the natural tone.

HAY ASTHMA—HAY FEVER.

This disease is a severe catarrh with an asthmatic affection. It occurs in the summer, and is due to peculiar emanations from decaying vegetation, in connection with overeating or the use of improper food, or, as some suppose, from the emanations from certain grasses, flowers, or weeds. The mucous membrane of the eye—the conjunctiva—and of the nostrils and throat and bronchial tubes are all somewhat inflamed, and there is headache, the eyes are watery, the nose is irritated, and there is frequent sneezing, and a dry, hacking cough, with occasional paroxysmal attacks of asthma, which last two or three hours. At times, the breathing is so difficult that suffocation appears to be certain.

TREATMENT PREVENTIVE.—Eat but two meals a day, subsist upon a vegetarian diet, and eat nothing between meals. If three meals are eaten, the last should be very light, and of food that is easily digested. Some form of bath should be taken three times a week. The sleeping room should be thoroughly ventilated night and day.

TREATMENT CURATIVE.—Take hot baths of any kind until sweating is induced, then wash off with cold water, use cold water freely about the head, and occasionally a hot fomentation to

the head, throat, and chest, alternating with cold every eight or ten minutes, and pursue the same course as directed above for prevention.

Sometimes a change of location during that period of the year when the patient is subject to this difficulty is the only way it can be avoided. When this is the case, the patient should visit a place free from much vegetation. A location with a breeze from the sea or from a large body of water would be good.

WHOOPING-COUGH.

This disease is too well known to need description.

TREATMENT.—Like all contagious diseases, whooping-cough will terminate in health as soon as the specific poison that occasions it is removed from the system. Therefore, all there is to do is to nurse the patient properly. The body should be at all times at about the same degree of temperature. The child should be well protected by warm clothing in cold weather, and the air in its room should be of an even temperature night and day. The temperature should not rise above 65° nor fall below 60° . Extremes in the temperature of the room are generally more injurious than any other one thing in the whooping-cough. The diet must be plain, simple, and rather spare, yet the child must have sufficient to keep him well nourished. Feed infants as di-

rected in Diet for Infants. Bathe the child three times a week in warm water. The form of bath is immaterial. Give a hot leg-bath for ten or fifteen minutes once or twice a week in addition to the other baths; keep the head cool and the extremities warm at all times. One of the best methods of treating whooping-cough is to apply the cold compress to the chest and hot fomentations to the spine at the same time. This may be done in connection with the above treatment. Hot fomentations should be applied over the liver two or three times a week.

DISEASES OF THE CHEST.

This class of diseases embraces diseases of the lungs, pleura, and heart.

BRONCHITIS.

This disease consists in an inflammation of the mucous membrane of the air passages after they enter the lungs. It may be acute or chronic. Acute bronchitis manifests the same symptoms, and requires the same treatment, as pneumonia, or lung fever, which see.

CHRONIC BRONCHITIS.

This disease is seldom fatal, yet it may lead to a fatal disease. The first attack usually occurs

in the winter. The majority of winter coughs are examples of it. In the mild form, there is but a slight cough, with shortness of breath, and a copious expectoration, these symptoms being always aggravated by exposure to cold or wet, or by bad living. This disease may, if the inflammation is confined to the larger tubes, exist for many years, and the patient experience no very great distress other than the discomfort of a frequent cough and expectoration. But if the capillary vessels become involved in the inflammation, the symptoms are more violent, the breath is short and very difficult, and there is an excessive secretion of opaque, frothy mucus, mixed with pus.

TREATMENT.—With the exception of wearing the chest-wrapper nights—see chest-wrapper—and applying once or twice a week the hot fomentation alternated with cold, for thirty minutes, and once or twice a week applying cold to the chest and hot to the shoulders, the treatment should be as directed for constitutional treatment.

CONGESTION OF THE LUNGS.

In treating a common cold on the lungs, give a hot bath of any kind for twenty minutes, followed by a cool bath for five minutes, and abstain from food for a day or two. In the meantime, apply hot fomentations alternated with cold every five minutes for one-half hour each day.

The tepid or cold compress or wet-jacket may be worn during the night.

PNEUMONIA.

Lung Fever, as this disease is sometimes called, is an inflammation of the substance of the lungs. It manifests itself by the following

SYMPTOMS.—This disease is ushered in by restlessness and general febrile disturbance. After from one to three days, there are chills or rigors, soon followed by nausea, cough, pain in the side, distressed breathing, and a pulse as high as from 120° to 160° beats per minute, and burning heat of the skin, thirst, loss of appetite, prostration, headache, and sometimes delirium. Frequently the first symptom is the chill, and this is followed immediately by fever, cough, shortness of breath, and restlessness.

TREATMENT.—Keep cool cloths on the head when there is pain or preternatural heat in it. Give tepid packs, or the dripping-sheet, or the sitz-bath, and foot-bath, all at from 85° to 90° once a day. Apply cold compresses to the chest, and make hot applications to the shoulders and between them for thirty minutes twice a day. The fever should be treated according to its form. If it assumes the putrid form, treat as putrid fever; if the nervous form, treat as nervous fever. See Putrid and Nervous Fever.

PLEURISY.

This disease is an inflammation of the membrane that lines the cavity of the chest and lungs.

SYMPTOMS.—A slight chill, followed by a sharp, cutting pain in one or both sides. The pain is usually seated a little below the nipple. The pain is greatly aggravated by the inhalation of air in breathing, as the lungs expand and stretch the inflamed membrane. It is also increased by coughing, by lying on the affected side, and by pressure. There is a short, harsh cough, the skin is hot and dry, the cheeks are flushed, and the pulse is hard and quick, and the patient is anxious and restless.

TREATMENT.—Time should not be lost before commencing the treatment, as this disease is very apt to terminate in dropsy of the chest, or in the formation of pus. As soon as possible after ascertaining the nature of the difficulty, give the patient as hot a sitz and foot-bath as he can well bear for fifteen minutes. Then apply a fomentation, as hot as can be borne, over the region of the pain for from thirty to sixty minutes. The heat should be renewed every five minutes. At the end of every fifteen minutes during the time, cold compresses should be applied for five minutes at a time. Another plan is to give the hot sitz and foot-bath, then apply ice water to the affected part in front, and the hot fomenta-

tion to the shoulders and spine. The fever should be treated as putrid fever, if the patient is very gross, or as nervous fever, if very weak without much grossness. If the dropsical accumulation within the chest continues after the inflammation is apparently removed, treat with sweating baths, as directed for general treatment of dropsy.

Night Sweats, may set in during this disease, or any other inflammatory or febrile (feverish) disease. All that is required is to sponge the patient frequently with tepid or cool water, give him plenty of pure air, and keep him quiet and free from anxiety. Cool dripping-sheets before retiring are among the best appliances.

ASTHMA.

This affection consists in a spasmodic contraction of the smallest branches of the bronchial tubes so that it is with the greatest difficulty that the patient can inhale sufficient air to sustain life. The difficulty is not continuous, but the "attacks" occur at irregular intervals. It is generally symptomatic of other diseases.

TREATMENT.—First, relieve the spasm by the hot half-bath or hot sitz and foot-bath prolonged for half an hour, allowing the patient in the meantime an abundance of pure, cool air, for which he is panting. The patient should drink freely of hot water to relieve the spasms. If the breathing is very difficult, hot fomentations should be applied, alternating with cold for

three minutes, at the end of every ten minutes for a half hour. During the interval between the paroxysms, the patient should take constitutional treatment, which see.

PULMONARY CONSUMPTION.

There are several varieties of pulmonary consumption, but inasmuch as they all result in the wasting of the patient's body and vitality, and as they all require about the same treatment, the separate varieties will not be presented here. The symptoms are such that they are not noticed much, and the patient seldom thinks there is much the matter with him until he is past help.

In all forms of pulmonary consumption, the conditions are as follows: The lungs are inflamed and ulcerated, or they contain abscesses, or the mucous membrane of the air-cells is coated over with a catarrhal membrane, or the lungs are filled with tubercles. It matters not which of these conditions exist, the result is the same. The blood is not properly aerated, as the patient cannot inhale sufficient air to vivify it properly, consequently, the blood is not in condition to be used in building the tissues, and the patient gradually wastes away. The wasting, however, does not particularly consist in the destruction of tissue in the lungs. It consists in this: The same waste and decay of tissue that takes place in health, as the result of vital action, takes

place in disease, as the result of vital action. In health, the tissues are rebuilt as fast as waste occurs, consequently, the strength does not fail. In consumption, the same waste of tissue occurs, but as the blood has not sufficient vitality to make tissue, it is not used to any extent, consequently, as the tissues are not rebuilt, the body must soon waste away.

Another fact to be noticed is, that in all forms of consumption, the internal organs, especially the lungs, are congested or inflamed, while there is but a feeble circulation in the extremities and in the surface.

TREATMENT.—From the forgoing remarks, it will be seen that in treating consumption, there are two things to be accomplished if we would be successful. 1. The congested and inflamed condition of the lungs is to be overcome. 2. The tissues of the patient's body are to be supplied with well-vitalized blood. Here, then, we have indicated the course of treatment to pursue. The congestion is to be overcome by inducing an active superficial circulation. This is to be accomplished by baths of a few minutes' duration at as low a temperature as will be agreeable to the patient. He must not chill, neither must his system receive a shock. The baths should be tepid or cool. If the cool bath is employed, it should not be continued more than one or two minutes, and the patient should be well rubbed

during the bath. The tepid bath may be continued from two to five minutes according to the strength of the patient, and should end by pouring cool water over the patient. Never give consumptive patients a bath sufficiently cold to cause a shock.

The above baths should be given once or twice a week, and every one should be followed by friction, or good dry-hand rubbing. If the patient does not warm up by the rubbing, and a good reaction does not take place, the bath will do injury.

The patient should clothe his extremities as warmly as any part of his body, and be sure to keep them always warm. To overcome the inflammation in the lungs, make cold, cool, or tepid applications to the chest, with hot fomentations, or dry heat to the spine for ten or fifteen minutes at a time two or three times a week, and wear the wet compress over the lungs three or four nights each week. The wet jacket may be worn in place of this if it does not cause the patient to chill in the night.

The sun-bath should be taken daily, and the patient should be much in the open air and sunshine, and should occupy a well-ventilated room night and day. His bed should be well aired daily.

To supply the tissues with well-vitalized blood, the patient must subsist upon nourishing food, discarding all stimulating substances, all grease,

fats, oils, and condiments of all kinds. See Diet for the Sick. He must take all the outdoor exercise that his strength will permit, and must accustom himself to full and free breathing. The last will require much time, practice, and patience. To accomplish it, the patient should stand erect, with the shoulders well back, or he should lie on his back, without a pillow, on the floor, table, or some other hard, level substance; then, with the lips closed, he should slowly fill his lungs, drawing the air in through the nostrils. Great care is required at first not to strain the lungs. The lungs should be thus filled two or three times, then the patient should rest five minutes, and then fill them as before. He should continue this exercise for half an hour at a time, several times each day, commencing gradually at first, only filling the lungs nearly full. While thus filling the lungs, and during the whole time he is thus occupied, the patient should strike all parts of his chest and abdomen with the closed hand, very gently at first, afterward using more force, but never so as to cause much pain. This full breathing and drumming the chest and abdomen must be persevered in until the lungs fill naturally without it. This may require many months.

The dress must be very loose about the waist; corsets must not be worn. The patient should read Part I. of this work, and practice all it teaches. So also should all who would escape

this fatal disease ; for ninety-nine cases of consumption out of every hundred result from violating the laws of health needlessly. The young, especially, should strive to so live that they may escape this dreaded and fatal disease. Oil-baths have been recommended in this disease—see Oil-bath—but I have never given them.

Those who are troubled with lung difficulty should spend a few months at some health institute in the early stages of this disease ; for more benefit can be received by them in one month in the early stages than in six months at a later period. The great trouble in treating this disease is that it is generally neglected until it is too late to help the patient.

DISEASE OF THE HEART.

Organic disease of the heart is incurable. Functional derangement of the heart, such as palpitation, irregularity of the pulse, etc., is a symptomatic disease, and may occur when any of the large internal organs are inflamed. Not one in a hundred of those who think they have heart disease have any more disease of the heart than the soundest person in the world. They mistake simple palpitation, and the disagreeable feelings which accompany it, for disease of the heart, whereas the facts in the case are these : Some other organ is congested, or inflamed, or hardened, or wasted, and the circulation becomes unbalanced,

and occasionally the heart makes a desperate effort to force the blood through the capillaries of the diseased organ, hence the palpitation, or irregularity.

TREATMENT.—In any case of supposed disease of the heart, the patient should avoid all excitement, and all excessive exercise, and should carefully follow out all the directions in Part I. of this work, and take treatment as directed for constitutional treatment.

DISEASES OF ORGANS WITHIN THE ABDOMEN.

DYSPEPSIA.

If there is any one disease that should excite our sympathy and pity for the sufferer more than another, it is dyspepsia. So long as the food is well digested, the patient may be agreeable, cheerful, and hopeful; but let there be but a slight degree of irritation in the stomach of the confirmed dyspeptic, and a low-spirited condition is immediately induced, which may vary from slight dejection and ill-humor to the most extreme melancholy. At times, the patient misconstrues every act of friendship, is irritable with those who desire to help him, while he exaggerates slight ailments into heavy grievances. When suffering from irritation of the stomach, he is no more like himself when well than a kernel of

corn is like a potato. He says and does things exactly contrary to what he says and does when well. This makes him appear fickle and unreliable, yet he cannot help it. Surely, such a person should be pitied.

The work of digestion is principally performed by the gastric and pancreatic fluids. Whenever these two fluids are deficient in quantity or in quality, the food cannot be properly digested, and real dyspepsia is the result.

CAUSE.—Probably there is no one disease, concerning the cause of which there exists so great a uniformity of opinion in the minds of medical men, as dyspepsia. They all agree that errors in diet and errors in exercise are almost the sole cause of this disease. The principal errors in diet that cause this disease are the following: Food taken in too large quantities; food of improper quality, especially greasy food, and food highly seasoned or mixed with condiments; food taken at irregular times. Or dyspepsia may be caused by food imperfectly masticated, through carelessness or hurry, or because of bad teeth, etc.; or by food taken into the stomach at too short intervals, not allowing the stomach sufficient time to rest. The drinking of too much fluid while eating is also a cause of dyspepsia. In addition to these errors, the want of bodily exercise, sedentary habits, inordinate intellectual exertion, care, anxiety, excessive physical exercise, the frequent

use of drugs, especially narcotics, smoking, tobacco-chewing, snuff-taking, and the use of alcoholic drinks, tea, and coffee, are each and all causes of dyspepsia.

SYMPTOMS.—These vary in different individuals. A dyspeptic may manifest any of the following symptoms: pain or uneasiness in the stomach, tenderness and a feeling of all-goneness at the pit of the stomach, as some express themselves, foul breath, coated tongue, and unpleasant taste in the morning, capricious appetite, which at times refuses food, and at other times is unsatisfied even after a hearty meal, or there may be an entire loss of appetite; sensation of pain or a sense of weight and fullness in the upper portion of the abdomen, the formation of gas in the stomach or intestines, burning pain in the stomach—heart-burn—cramp in the stomach, frequent eructations of gas or water from the stomach, habitually constipated bowels, chronic diarrhea, or these conditions alternating. There may be nausea and vomiting, palpitation of the heart, irregularity of the pulse, headache, and occasionally dimness of vision. If the stomach is greatly distended with gas, the breathing will be difficult.

TREATMENT.—Break away from every false habit; eat plain food, cooked in a simple manner; discard all rich food, grease, fat or oil, eat sparingly, masticate the food thoroughly, eat regularly, and not oftener than three times in twenty-four hours; drink neither tea, coffee, nor other

drink with meals; use no alcoholic drinks at any time; take all the exercise in the open air that can be taken short of fatigue; breathe full and free; sleep much, and at regular hours; and always retire early. If the stomach refuses to retain food, it should have rest for twenty-four hours, then begin feeding with a single spoonful of milk. After a half hour, give another spoonful, and so on. After a few hours, increase the amount, or add a little sifted oat, wheat, corn, or barley-meal gruel, and increase the amount no faster than the stomach can retain it. Take the mild baths, such as the dripping-sheet, spray-bath, sponge, sitz, or half-bath, twice a week.

Take the dry-hand-rub every morning, and gently percuss the abdomen and chest with the closed fist every hour through the day for ten minutes at a time. Horseback riding is excellent for those afflicted with this disease. Sunbaths should be taken daily. Hot fomentations over the stomach two hours after eating will aid digestion.

INFLAMMATION OF THE STOMACH.

There is a general fever, with burning pain in the upper part of the abdomen, which is increased on the slightest pressure; constant nausea, followed by violent retchings; an accelerated pulse; difficult breathing; great thirst, with unremitting desire for cold drinks, which are vomited as soon

as taken. Soon extreme prostration follows, with faintness.

CAUSE.—Powerful irritants or poisons taken into the stomach; cold water drank in large quantities when the body is heated by exercise, drinking of boiling water; large doses of emetics when they fail to produce vomiting, and large doses of tartar emetic. In most cases it is caused by the medicine the doctor ordered.

TREATMENT.—Give the patient frequent sips of ice water; small quantities of broken ice may be swallowed; cool water may be drank freely. The bowels, when constipated, should be freed by the use of tepid enemas. If there is a diarrhea, give cool or cold enemas. Treat the fever as directed for simple fever. Hot fomentations, or heat and cold alternated, should be applied over the stomach several times a day.

INFLAMMATION OF THE BOWELS.

SYMPTOMS.—There is a general fever—which may begin with chills—accompanied with severe pain in some part of the abdomen, generally around the umbilicus—navel—or on the right side of the abdomen between the right hip and the umbilicus. The pain is increased by pressure, but colic pains are not. The patient lies on his back with his knees drawn up, so as to relax the abdominal walls. There is obstinate constipation

generally, but sometimes diarrhea attends, the fæces being green and offensive. Soon the symptoms all become more marked, there is excessive thirst, dryness of the tongue, vomiting of bilious or offensive matter, and a watery diarrhea. When the lining membrane of the abdomen becomes inflamed consequent upon childbirth, the disease is called puerperal fever.

TREATMENT.—Reduce the inflammation by the constant application of the cold compress, changed as often as it becomes warm, or with the hot fomentation alternated with the cold compress every ten minutes. The hot sitz and foot-bath may be administered two or three times a day, ten or fifteen minutes at a time. The bowels should be freed by tepid enemas. Ice water may be drank frequently in small quantities. Reduce the fever, if there is any, with frequent wet-sheet-packs or tepid spongings. Treat puerperal fever in the same manner.

DYSENTERY.

When the laws of health are all obeyed, this disease never exists. Dysentery consists in an inflammation and ulceration of the lower portion of the large intestine and the rectum. There is usually more or less feverishness, frequent mucous and bloody stools, bearing down of the lower portion of the large intestine, a frequent desire to go to stool, and griping pains in the abdomen.

In some cases, the ulceration extends the entire length of the large intestine and some distance into the small intestines.

CAUSE.—Improper food, impure water, exposure to wet and cold, intemperance, excessive use of flesh-meats.

TREATMENT.—The bowels should be well cleansed by a large warm enema, after which a small cold enema should be given and retained if possible. In some cases, ice water has the most soothing effect. The warm sitz-bath may be taken for eight or ten minutes at a time two or three times a day. A large cold wet compress should be applied to the abdomen constantly, and changed as often as it becomes warm, until the inflammation is subdued. Hot fomentations applied for half an hour, or alternated with cold every ten minutes, will be found very useful. The entire surface of the body should be sponged off several times a day with water that is most agreeable to the patient's feelings, until the fever ceases. The patient should take occasional sips of ice water. The diet should be very spare until the violence of the inflammation and fever is overcome. Total abstinence from food is better. All the food taken should be bland, and of the lightest kinds, such as boiled rice, rice-meal gruel, gruel from any kind of meal, with or without milk. New milk may be given. Perfect rest in bed in

a well-ventilated room is requisite even in the mildest forms of dysentery.

DIARRHEA.

Medical writers give us seven varieties of this disease; but as such a division will only tend to confuse the mind of the nurse, the disease will be described as a unit.

CAUSE.—Overeating, and the use of improper food, such as unripe fruit, raw vegetables, sausage, pork, veal, or excessive quantities of fresh meat of any kind. Salt meat and salt fish may cause diarrhea by first inducing constipation. It may also be caused by want of nourishing food, by drinking foul water, or by inhaling the fumes of decaying animal or vegetable matter, or by great mental excitement, exposure to damp or cold, or by excessive heat. Diarrhea is often a symptom of pulmonary consumption, congestion of the liver, and nervous and putrid—typhoid—fever.

SYMPTOMS.—The fæcal discharges may be of the common quality, yet be loose and copious; if so, the cause is overeating or irritating food. In addition to the former symptoms, the fæces may contain much bilious matter, in which case the discharges would be yellow or greenish. There may be much mucus mixed with the fæces, or they may be very watery, the discharges being thin and frothy, or the food may be expelled undigested. There may be membranous matter dis-

charged ; if so, there is much inflammation in the bowels. There is also griping pain in the abdomen.

TREATMENT.—This must depend upon the cause. If occasioned by overeating, fasting would be requisite ; if by liver difficulty, the liver should be treated (see Diseased Liver) ; if by inflammation of the bowels, treat the inflammation. When the treatment is commenced, a very thorough tepid enema should be administered. It should be as large as the patient can bear, and should consist of from a quart to two quarts of water for an adult, and in proportion for a child. The enema should be repeated the second day. Small cold enemas—about a tumblerful—should be administered once or twice a day and retained. Warm sitz-baths, followed by a cool sitz-bath, should be taken for fifteen or twenty minutes, three or four times a week. The hot fomentation, alternating with the cold compress, once or twice a week, is useful. The general health must be attended to (see Dyspepsia). The food must be largely or wholly composed of preparations of fruits and grains. Wheat meal, oatmeal, barley meal, and cracked wheat, may all be used.

MALIGNANT OR EPIDEMIC CHOLERA.

This disease has been considered the most fatal of any to which the human race is subject. Its characteristic features are vomiting, purging of watery discharges of the color and consist-

ency of rice water, cramps, loss of animal heat, suppression of the urine, collapse and secondary fever.

There are usually three stages. In the first, there is diarrhea. In the second, there is purging of rice-water evacuations, vomiting, severe cramps, laborious breathing, coldness, with livid or bluish skin, sinking of the pulse, and collapse. In the collapsed stage, the surface is cold, the skin blue, the tongue lead color and cold, the lips are purple, the eyes sunken in their sockets, the cheeks fallen, the body diminishes, and there is a death-like appearance of the entire body; the voice is husky and faint, and the skin is bathed in a cold sweat. In the third stage, there is a reaction; a fever sets in, which continues until all danger is past.

CAUSE.—The immediate cause of epidemic cholera is unknown, but is supposed to be atmospheric. There are, however, certain well-known predisposing causes which all may avoid. When these causes are present, sporadic cholera—cholera morbus—may exist, and if the atmospheric cause is also present, epidemic cholera may prevail; without these predisposing causes, neither form can prevail, therefore, cholera of every description may be avoided by avoiding the predisposing causes. These are, malarious gases that arise from decomposing vegetable and animal matters, want of ventilation, impure water (this

last is very bad), fear, and uncleanly habits of person and house.

TREATMENT PREVENTIVE.—Remove all decomposing animal or vegetable matter, including offal, manure heaps, stagnant water, foul pig-pens, henneries, and privy vaults. In other words, make your premises as clean as possible, keep the living and sleeping rooms thoroughly ventilated night and day, and let in the sunlight. Use no impure water—be sure on this point—use filtered rain water or soft water, and eat plain, nourishing food, composed of vegetable substances. Take a tepid bath twice a week; keep the bowels regular by the use of wheat-meal bread, mush, or with enemas if necessary.

TREATMENT CURATIVE.—As soon as the diarrhea makes its appearance, administer a copious tepid enema, give a warm bath for twenty minutes, and put the patient to bed and enjoin strict repose; then apply a cold compress to the abdomen, and change as often as it becomes hot. Let the patient drink freely of cool or tepid water, or sparingly of cold water. If the diarrhea continues four or five hours after the bath, give a small cold enema, to be retained. Give a woolen sheet pack, as hot as the patient can bear, for fifteen or twenty minutes, then take him out and wipe dry, then apply the cold compress to the abdomen as before. After vomiting occurs, give ice water in small quantities to drink. Bits of ice may be swallowed also. If cramping occurs, apply heat to the

extremities and abdomen, and rub all parts thoroughly. Should collapse occur, give an enema of hot water of three, four, or more pints as hot as the patient can bear, and envelop him in a very hot wet woolen blanket, covered with dry blankets, as directed for packs. As the patient recovers, be careful not to overfeed him, nor allow him to take too much exercise. This disease is often fatal.

CHOLERA MORBUS, OR SUMMER CHOLERA.

The symptoms of this are not so violent as in the preceding variety of cholera; yet they do not differ particularly, except that the matter expelled both by purging and vomiting contains a great amount of bilious matter. The attack is generally sudden. At first, the contents of the stomach and intestines are voided by vomiting and purging, and then a quantity—sometimes an enormous quantity—of thick, yellowish fluid is expelled from the bowels by purging and vomiting. And there is a burning sensation in the upper part of the abdomen. After a while, spasms occur in the lower extremities, especially in the calf of the leg; the surface of the abdomen is drawn up into knots, and, in course of time, the patient, exhausted by the pain and the spasms, and still more by the abundant discharges, grows cold and faint. Death sometimes follows, but not often.

CAUSES.—The same as in the preceding variety.

TREATMENT.—In the early stage, give the patient copious warm enemas, and let him drink freely of warm water. After this is vomited, let him drink ice water frequently, but in small quantities. As soon as possible after the “attack,” give a warm sitz and foot-bath, or the half-bath, or full bath, or hot wet woolen sheet pack. It should continue about twenty minutes. The cold compress should be constantly applied to the abdomen, and changed as often as it becomes warm. The griping in the abdomen is best relieved by hot fomentations. The preternatural heat of the patient, should any exist, may be relieved by the cool sitz-bath, frequent sponging, or the wet-sheet pack; if headache occurs, apply the cold wet head-cap.

CHOLERA INFANTUM.

This disease prevails extensively among infants, generally in their first and second years, in cities during the summer.

SYMPTOMS.—These do not differ materially from the preceding. The first symptoms of the disease are generally profuse diarrhea, the stools being fluid of a light color, though often of a pale yellow or green color. After a few days (from one to three or four), vomiting sets in, and everything taken into the stomach is ejected im-

mediately, and with violence. After the disease has continued a short time, the discharges from the bowels are a colorless and inodorous fluid, and are discharged without the least effort. At times, however, they are voided with force. In this case, there is severe griping and dragging, or bearing down in the lower intestine.

TREATMENT.—Give first a tepid enema. Then, at intervals of a few hours, give small cool enemas, give a warm full-bath for a few minutes daily, and frequent spongings with tepid or cool water; give pure, cool water to drink freely, and if there is blood passed, give a small cold enema. Hot and cold compresses alternated may be applied to the abdomen daily. Place the child where it can have an abundance of pure, free, cool air. Keep the clothing and bedding clean and dry. Feed the child as directed in Diet for Infants in Part I. If the head becomes affected, apply to it hot fomentations, alternated with cold.

WIND COLIC—FLATULENCE.

When the food is not properly digested, or when unsuitable food is eaten, or when from any cause the food ferments in the alimentary canal, a gas is generated which, inflating a portion of the intestines, causes severe pain. There is, however, no inflammation, and no preternatural heat, and the pain is somewhat relieved by pressure. Colic is also caused by the retained fæces

in constipation. Infants, when fed from a bottle by a careless nurse, often swallow air with their food in sufficient quantities to cause extensive flatulence.

TREATMENT PREVENTIVE.—Avoid the use of all such food as is known to cause colic. Avoid exposure to damp and cold. Eat moderately of the most wholesome food. Attend to the general health.

TREATMENT CURATIVE.—Give a thorough enema of tepid water, and apply hot fomentations, alternated with cold, to the abdomen. The hot, warm, or cold sitz-bath may be employed.

LEAD COLIC, COPPER COLIC.

Colic is often occasioned by sleeping in a newly painted room, or by working with paint made of white lead, or by working brass and copper.

SYMPTOMS.—Similar to those in wind colic, and in addition, there are severe griping pains at or just above the umbilicus; the edges of the gums are of a purple or lead color.

TREATMENT.—The same as for the preceding variety, viz., large tepid enemas, hot fomentations alternated with cold, to the bowels, and hot, warm, or cold sitz-baths for twenty minutes.

CONSTIPATION.

As a rule, most people, when their bowels act normally, have an evacuation every day; some,

twice a day, and others, once in two days. It is important that the bowels should act regularly, and that they act sufficiently often that their contents shall not become hardened. It is best that they act once or twice daily.

There are many, however, who neglect themselves, and have no regularity of habit in this respect. Evil results often follow this neglect, such as irritation of the mucous membrane of the intestines, causing inflammation, diarrhea, dysentery, piles—hemorrhoids, etc.

CAUSE.—The most common cause is the use of bread made of bolted wheat flour, salt fish, salt meat, and sedentary habits.

TREATMENT.—Move the bowels with enemas, and subsist upon plain food ; use no bolted wheat flour, but use unbolted wheat meal or graham flour, corn meal, oatmeal, pearl barley, cracked wheat, hulled corn, etc., and fruit, especially apples. Take daily exercise in the open air, such as walking, horseback riding, or useful labor of any kind. Indolence and too much sleep must be avoided. A glass or two of cold water drunk night and morning is very beneficial.

Sometimes the rectum becomes so packed with hardened fæces that a passage cannot be had, nor can water be introduced. In such cases, the fæces must be removed with the handle of a spoon, or a similar instrument, or with the fingers.

PILES—HEMORRHOIDS.

The usual causes of this troublesome difficulty are habitual constipation, the frequent use of purging medicines, torpid liver, straining to pass hardened faeces, rich food, insufficient exercise, etc.

TREATMENT.—Keep the bowels free, avoid all the known causes of the difficulty, do not over-eat, and take a shallow cold sitz-bath two or three times a day, when they are inflamed and painful. Ice introduced into the rectum will give relief.

When bleeding or internal piles exist, the hemorrhage can be stopped as directed for hemorrhage of the rectum, which see. The general health must be well attended to. See Constitutional Treatment.

WORMS.

CAUSE.—The use of unwholesome food, over-eating, and indigestion, are the chief causes. It is true that the eggs must be introduced into the alimentary canal, yet, were proper food taken in proper quantities, the bowels would act regularly, and the worms could not remain in them.

SYMPTOMS.—The most common are colicky pains and swelling of the abdomen, picking of the nose, itching of the rectum and anus, irregularity of the bowels, foulness of the breath, grinding of the teeth while sleeping, voracious appe-

tite, headache, etc. The most conclusive evidence is the passage of worms or joints of worms.

TREATMENT.—The small thread worm can generally be removed by cold enemas of salt water, which should be given three times a week for a few weeks to remove any remaining worms. Sometimes cold water alone is sufficient. The long, round worm will have to be killed in most cases before it can be removed. Anthelmintics, or worm medicines, will have to be given. These are simply poisons, and are not to be given for the purpose of curing the sick child, but for the purpose of killing the worms, thereby causing them to loosen their hold on the mucous membrane of the intestine, after which they are readily passed off. Of course a large dose of the poison would kill the child. There are many cases, however, in which the worms can be caused to loosen their hold by the use of mucilaginous drinks; pumpkin-seed tea or slippery elm bark will often effect this. When a tape worm is known to exist within the bowels—this is ascertained by the passage of joints of the worm—a physician who understands his business should be employed, as much care has to be exercised in administering the poisons.

ASCITES—DROPSY OF THE ABDOMEN.

When this disease exists, the general health must be improved by the employment of suitable

hygienic agencies. Tepid enemata should be administered frequently, also hot-air-baths, hot packs, or hot sitz-baths, once or twice a week. In all other respects follow directions for constitutional treatment, and general treatment of dropsy.

DISEASED LIVER.

This term is intended to cover all the diseases to which the liver is liable.

The liver may be simply congested, or it may be hardened, or it may be wasted, or gall-stones may exist and remain in the gall-bladder, or they may pass through the biliary ducts, causing excruciating pain, or the liver may be inflamed, the bile may be reabsorbed, causing jaundice, or abscesses may form in the liver.

SYMPTOMS.—When the liver is congested, there is headache, a disinclination for exertion, frequent flushing of the face, coldness of the extremities, pains in the muscles of the loins and limbs, weight in the right side under the lower ribs, the bowels are more or less filled with wind, there is nausea, dizziness, dyspepsia, slight jaundice, and highly colored urine, which is usually rather scanty.

When the liver is in a state of wasting (atrophy), there is indigestion, flatulence—wind in the intestines—constipation and diarrhea alter-

nating, pale-colored stools, a dry, sallow skin, falling away in flesh, and loss of strength.

When gall-stones pass from the gall-bladder, they cause a sharp, cutting pain in the region of the liver, and the patient throws himself about on the bed in different positions to get relief by change of posture. The upper portion of the right side of the abdomen is very sensitive to the touch, nausea and vomiting come on rapidly, the bowels are confined and distended with wind.

When there is acute inflammation, there is, at the first, tenderness over the liver, high fever, hot skin, extreme thirst, scanty urine, fullness, and more or less pain in the right side under the ribs, which is aggravated by pressure, by coughing, or by deep breathing; inability to lie on the left side, the breathing is more or less difficult, and there is a sympathetic cough, vomiting, and pain in the shoulders. If the inflammation continues to the suppurative stage, an abscess forms. The symptoms attending abscess are the same as those in acute inflammation, with the addition of chills, hectic fever, disturbance in the stomach, weight in the region of the liver, and a dry cough.

When jaundice exists, the skin and the membrane of the eyes are of a yellow color, the urine is saffron-colored, and there may be exhaustion, drowsiness, giddiness, or peevishness.

TREATMENT.—This must first be with reference

to the cause, which must be removed. All highly seasoned food, all fats and oils, sweetmeats, and rich preserves, sauces and gravies, etc., must be avoided. The patient must use only the most wholesome articles of diet, take exercise daily in the open air, sleep in a well-ventilated room, keep the bowels unobstructed by the use of coarse food or by enemas. He should take a thorough dry-hand-rubbing on rising in the morning, and two or three times a week take a tepid or cool sitz-bath for five minutes, followed by a tepid dripping-sheet.

If gall-stones are passing, he should apply hot fomentations over the region of the pain. When there is acute inflammation, he should apply the cold compress constantly, unless the pain is severe, in which case, the hot fomentation should be applied. The cold compress may be occasionally exchanged for the prolonged warm fomentation. The hot sitz-bath and hot foot-bath are good in this difficulty. In all forms of liver disease, the wet-girdle should be worn four nights in the week. The directions for taking constitutional treatment should be followed out except when contra-directed here.

DISEASES OF THE SPLEEN.

Those who have had intermittent fever, and have taken much quinine, are apt to have a diseased spleen. A hard lump may be felt in the

left side—usually known as ague cake—and there is more or less pain in the left side.

TREATMENT.—The same as for diseased liver.

INFLAMMATION OF THE KIDNEYS.

Scrofulous persons are quite apt to have acute inflammation of the kidneys. This disease is also brought on quite frequently by exposure to cold and damp, also from the formation of gravel—hardened calculi—in the kidneys or their excretory ducts—the ureters—occasioned by drinking hard water, also from intemperance combined with poor living, also from the use of medicines given to promote the urinary excretions. Suppuration and the formation of abscesses in the substance of the kidneys often result from acute inflammation in these organs. Chronic inflammation may result in a gradual breaking down of the excreting glands of the kidneys, causing most serious difficulty.

SYMPTOMS.—In the acute variety of this disease, there is deep-seated pain in the loins on the affected side, especially in the region of the kidneys; the pain sometimes extending along the duct from the kidney to the neck of the bladder, or to the groin. The pain is increased by pressure or by exercise. There is also numbness of the thigh on the affected side. There may be occasional chills, fever, nausea, and vomiting, great thirst, constipation, and a swollen or bloat-

ed abdomen, and occasionally there may be suppression of the urine.

In chronic inflammation of the kidneys, the symptoms differ from the above in that they are scattered through a longer period, consequently are not so noticeable, yet, were they all concentrated into two or three weeks' time, they would be as above described.

TREATMENT.—Acute inflammation of the kidneys should be treated by applying hot fomentations to the loins and back, over the kidneys, or by alternating the hot fomentation with the cold compress, or by applying cold to the back, and heat to the bowels over the umbilicus. The hot sitz-bath should be taken frequently. The hot-air-bath and the hot wet woolen sheet pack are also applicable. The fever that attends should be treated as an ordinary fever. Wear the cool wet-girdle nights, and apply cold water over the kidneys frequently.

In chronic inflammation of the kidneys, the tepid sitz-bath, full-bath, half-bath, the dripping-sheet, and the spray-bath, are all applicable, and any of these may be taken three times a week. If there is much pain, apply hot fomentations. The diet must be strictly hygienic.

INFLAMMATION OF THE BLADDER.

This disease is not a frequent occurrence, yet it sometimes exists as the result of stone in the

bladder, or the habitual use of medicines to promote the urinary excretions. It may also be caused by the protracted retention of the urine.

SYMPTOMS.—Shivering, pain over the bladder, and heat in the external urinary passage—the urethra—with a constant desire to pass urine, which is voided in very small quantities. There is a high fever, with nausea, general restlessness, and anxiety.

TREATMENT.—Give the hot sitz-bath, as hot as can be borne, for fifteen or twenty minutes at a time, three or four times a day, and apply the cold wet compress over the bladder at other times. Renew the compress as often as it gets warm. Treat the accompanying fever with wet-sheet-packs, or tepid baths, as directed for fever in general. Give an occasional tepid enema, with a small cold enema to be retained after the bowels have moved. Keep the extremities warm.

PARALYSIS OF THE BLADDER.

It sometimes happens that for some cause, such as neglect, or sensitiveness because of the presence of persons of the opposite sex, that the urine is retained until the bladder, by being overstretched, loses its power to contract and void its contents, or there may be internal pressure against the neck of the bladder, caused by retroversion of the uterus. When the bladder is filled to its utmost capacity, the urine will dribble

away slowly, this incontinence being one of the symptoms of retention.

TREATMENT.—In all cases when retroflexion of the uterus is not known to be the cause of the retention, it may be considered as highly probable that paralysis of the bladder exists. If the pain is not very severe, a hot sitz-bath or hot fomentation should be given without delay. The hot application should be followed by a dash of cold water on the abdomen. If the distress is very great, or if the hot applications do not cause a passage of the urine, or if the retention is caused by retroversion of the uterus, the urine should be immediately drawn off with a catheter.

PAINFUL URINATION.

This disease may be relieved by warm sitz-baths, or the warm full bath, hot fomentations, and copious water drinking.

INCONTINENCE OF URINE.

This disease consists of a frequent or perpetual discharge of urine. The difficulty in retaining it is caused by the habitual use of hot drinks, medicine given to promote the secretion of urine, and alcoholic drinks.

TREATMENT.—Remove the cause, and follow the plan directed for constitutional treatment.

UTERINE DERANGEMENTS.

The uterus and vaginal canal are liable to several forms of disease. There may be acute or chronic inflammation of this organ, or there may be excessive menstruation, or suppression of the menses, or retention, or painful menstruation; or there may be displacement of the uterus, or cancerous tumors, or ulcerations, or leucorrhœa may exist. There are but few of these difficulties that can be successfully treated at home, and every patient who is afflicted with serious uterine difficulty should go to some good health institute where the principles of treatment advocated in this work are carried out. The Health Reform Institute at Battle Creek, Michigan, is probably the best in America.

INFLAMMATION OF THE UTERUS.

The symptoms in this difficulty are similar to those in inflammation of the bladder. There is, however, a sense of weight and pain that is not referable to the bladder, and which is caused by the swollen uterus.

TREATMENT.—The same as for inflammation of the bladder. In addition to this, however, give frequent cool vaginal injections.

LEUCORRHŒA.

This disease effects more than half the women in America. In fact, it is the most common dis-

ease to which women are liable. It consists of a slight inflammation of the mucous membrane of the vaginal canal, or of the uterus, which results in the throwing out of a white, or yellowish white, fluid, which is frequently or constantly discharged. There is usually more or less pain in the back, with a sense of weariness after slight exertion, loss of appetite, lowness of spirits, nausea, flatulence, or some other form of indigestion.

TREATMENT.—The patient should seek to improve the general health by carefully following the directions given for constitutional treatment. In addition to this, cool vaginal injections should be administered three or four times each day.

The same treatment is applicable to most uterine difficulties. If the patient is full of blood and not much reduced, the treatment can be more vigorous; but if weak and bloodless, the treatment must be mild.

SUPPRESSION OF THE MENSES.

For cause and treatment of this difficulty, see Chlorosis.

UTERINE DISPLACEMENTS.

Uterine displacements require both general and local treatment, and, as a general thing, cannot be successfully treated at home, yet there are certain preventive measures that ought to be understood and adopted by all, and these consist in avoiding the causes of the difficulty. The

habit of dressing girls so that their extremities become chilled while the internal organs are overheated, is one great cause of this difficulty. Another cause is wearing corsets, and having the garments tight about the waist, or suspended therefrom, thereby pressing the abdominal organs down upon the pelvic organs so that the latter have to give way to make room for the former. Hardened fæces, if allowed to accumulate in the lower bowel, may cause displacement, as also may severe straining at stool.

There is one habit that very many girls and young women have, that is very liable to cause displacement of the uterus, in fact, I believe that a large share of the cases of retroversion and retroflexion are dependent mainly on this one habit. The habit to which I refer is that of retaining the urine until the bladder becomes filled to its utmost capacity. As the bladder becomes filled with water, it tips the uterus backward or presses it downward.

Mothers should instruct their daughters to attend promptly to the calls of nature, for if this matter is habitually neglected, it soon becomes a fixed habit, and the bladder in a great measure loses its powers of sensation so that the distress which was experienced at first when it was but slightly distended is not felt when the distention is still greater. The constant downward and backward pressure of the bladder against

the uterus soon tells upon its supports, and the displacement becomes permanent.

In treating displacements, all the causes of the difficulties should be carefully avoided, and the general health well attended to and improved. Cool baths and cool vaginal injections and cool sitz-baths of four or five minutes' duration are beneficial. The abdomen should be well kneaded daily, and the bowels kept free. In many cases, the organ will require to be occasionally replaced. The patient should take constitutional treatment.

SKIN DISEASES.

When the general health is neglected, and internal organs become torpid, the skin is liable to various diseases, such as eruptions, rashes, scales, etc.

TREATMENT.—It matters not what form the disease of the skin assumes, constitutional treatment is required, and in addition thereto, the patient should strictly regard all the laws of health as directed in Part I.

ITCH.

The itch is caused by a minute insect that burrows under the scarf-skin. The disease commences as watery pimples, which, becoming ruptured by scratching, become festering sores.

TREATMENT.—Administer a thorough, hot full

bath, or a prolonged warm bath, using soft soap freely, then apply an ointment made of eight ounces of lard or glycerine, two ounces of flour sulphur, and one-half ounce of carbonate of potassium. Apply the ointment warm to all parts, then put the patient to bed and wrap him up well all night; be sure the patient keeps warm. In the morning, wash thoroughly in hot water with plenty of soft soap. Wash all the bedding used about the body, and boil it thoroughly, to remove the sulphur.

ACCIDENTS.

Burns and Scalds. If the burn or scald is not so serious as to raise a blister, there will be no special requirement for treatment, except to quiet the nerves and exclude the air.

The part may be oiled with any kind of oil, or it may be covered with molasses, or anything to exclude the air. Cotton-wool bound on will often be all that is required. If a blister is formed, the water should be removed by pricking the skin with a fine needle. Care must be taken not to remove the skin, however, as this would permit the air to come in contact with the flesh, and serious consequences might follow. After letting the water out, as directed, the part should be oiled and bound with cotton, as directed above.

If a fever arises, the patient should take a bath

at 70° or 75° for a few minutes, and then take a dry pack to induce sweating if possible, giving water to drink freely. In deep burns, where the skin is removed, starch or flour may be sprinkled over the part and allowed to remain until it is removed by the formation of pus, when the surface may be gently washed, and the flour again applied. Instead of using the flour, oil and cotton may be used.

After once dressing the wound, it is best not to remove the bandage any sooner, nor oftener, than is required to keep the part clean, as the admission of air causes mischief.

When a person's clothes take fire, the flame can be speedily extinguished by wrapping him in a blanket. This will exclude the air, and extinguish the flame.

DROWNING.

If a person is drowned, an effort should be made to restore life, unless an hour or more has elapsed since the accident.

It should be remembered that, in drowning, death occurs from lack of air, and not because the lungs are filled with water. In drowning, the glottis closes spasmodically, and shuts the air out from the lungs.

TREATMENT.—Place the patient on his back with the head and shoulders slightly raised. Cleanse the nostrils, mouth, and throat from mucus,

after which draw the tongue firmly forward, so as to keep the tip well extended at the side of the mouth; this will open the glottis; then compress the front and sides of the chest with the patient's own arms, which will force the air out of his lungs; then suddenly remove the pressure, and grasp the arms just above the elbows and draw them upward until they nearly meet above the head. Then lower them and replace them at the patient's side, and again press upon the chest to force the air from the lungs, and raise as before; repeat the process fifteen times in the minute, that being the usual number of inspirations per minute, moving the arms slowly each way. The face should be well fanned at the same time. Continue this process until life is restored or until it is certain that death has actually taken place. While this process is taking place, assistants should apply warmth to the extremities and body.

In *apparent death*, from any cause, this process should be resorted to.

UNKNOWN DISEASES.

It sometimes happens that a person is ailing, yet does not know the nature of his disease. Perhaps he is able to keep about and do some work, yet there is a general weakened condition of the system. He is easily fatigued, does not rest well nights, but feels tired or exhausted on

waking, has no appetite, feels better about ten or eleven o'clock in the forenoon, and continues to feel so until two or three in the afternoon, then begins to be weary. The question is, What ails him? The doctor answers, Nervous debility. But what is that? What are his conditions? They are dyspeptic, with torpid liver, constipated or relaxed bowels, weak lungs, and, in fact, nearly every internal organ is more or less diseased. The organic nervous system is not sustained properly because the blood is poor, and this is caused by indigestion and a failure to breathe enough to properly vivify the blood. Such persons wish to know what to do to regain health.

TREATMENT.—He should carefully examine every habit of life and ascertain wherein he is transgressing the laws of health, and correct every false habit. Perhaps the sleeping room is not properly ventilated, or it may be the sunlight is shut out of the dwelling. The water used may be hard or impure, or perhaps he does not bathe sufficiently often to keep the pores of the skin open. It may be that the food is too highly seasoned, or is not properly cooked, or is eaten in too large quantities or too frequently, or too late in the evening; perhaps tea or coffee is used with the food, or too much flesh may be eaten, or fats, oils, butter, rich gravy, or preserves, and condiments. Or the food may be imperfectly masticated, or there may have been exposure to wet and

cold. The clothing may not be properly adjusted; perhaps the limbs and feet are insufficiently clothed, while the body may be too warmly clad, or the clothing may be too tight. The habits may be sedentary, and he may not exercise sufficiently to keep up a good circulation, or the exercise may not be of the right kind, or he may be overworked. Perhaps rest and sleep are not taken regularly, or the bed is old and filthy, or is not aired daily, or perhaps a feather bed is used, or perhaps the night vessel is left standing in the room, or left uncovered to send off its effluvia. Perhaps the fæces and urine are retained until their poisons are reabsorbed by the system, or, in the case of females, until by the accumulation the uterus is displaced. The bodily positions may be wrong, so that by the constant bending or crooking of the body some of the internal organs may be so pressed out of position that they cannot properly perform their functions. Or it may be that there is decaying vegetation near the residence, and that the air is tainted with its noxious gases. Perhaps a heap of stable or barnyard litter, or a pigpen or privy vault, or a pond of stagnant water throws off these gases, or the cellar may be unventilated or contain decaying vegetables, fruit, or meat.

Perhaps there is some mental difficulty that causes the ill health. It may be care and anxiety, or worry, or a lack of cheerfulness, or moroseness,

or despondency, or the mind may be unoccupied the patient having no object in life. It may be a sense of wrong doing, or a knowledge of duties undone, that weighs upon the mind and preys upon the health.

These points should all be considered, for every one of the foregoing habits and conditions engenders disease, and prevents a restoration to health. Therefore let every chronic invalid study well the requirements of health as given in Part I., and then try to put its teachings in practice. He should also take constitutional treatment.

CONSTITUTIONAL TREATMENT.

Many cases of chronic disease require constitutional treatment as well as local treatment. By constitutional treatment is meant a course of treatment calculated to increase the constitutional power and vigor of the patient. This treatment consists, first, in putting the patient on a plain, unstimulating diet, which must be composed of the very best quality of fruits, grains, and vegetables. There should be a variety of these provided, so that the weak digestive organs may find plenty of good, nourishing food from which to make blood.

There need not and should not be a very great variety at one meal, but there should be in the course of the week a good variety used. Sweet milk and cream may be used to some extent in

cooking other food, and, if the patient is not an experienced vegetarian, or if he is very much debilitated, he should occasionally, that is, once or twice a week, use a little fresh beef or mutton that is free from fat. It is far better, however, to abstain from such food entirely, as soon as a person can habituate himself to a vegetable diet.

In addition to proper diet, the patient should form habits of regularity in all things, and especially in the time of eating, retiring for sleep, amount of exercise, and in moving the bowels. The clothing should be worn loose about the waist, the feet and limbs should be warmly clad; and the patient should spend as much as possible of his time in the open air and sunshine—avoiding excessive heat, however—and should sleep in a large, airy room. On rising in the morning, the patient should rub himself briskly with the dry hand for five or ten minutes, being careful not to chill. He should also, as often as every other day, take a tepid bath of ten to twenty minutes' duration, followed by a cool bath for three to five minutes, and this, by a thorough drying and dry-hand-rubbing. If he has liver, kidney, or bowel difficulty, or trouble with the spleen, he should wear the wet-girdle three or four nights in the week. If the throat is affected, he should wear the compress around it nights, keeping it well covered with a dry cloth.

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GLOSSARY.

- Abdomen.* The belly.
- Abortion.* The expulsion of a foetus before the seventh month; miscarriage.
- Abscess.* A collection of pus in a cavity.
- Acrid.* Sharp, pungent, or bitter.
- Actual Caution.* A red-hot iron for cauterizing or burning the flesh.
- Acute.* An acute disease is one which, with a certain degree of severity, has a rapid progress and short duration.
- Adhesive Inflammation.* That inflammation which causes organs to adhere, or stick together.
- Affusion.* The act of pouring out.
- Alteratives.* Medicines that change the form of the disease.
- Alternate.* That which happens by turns.
- Anasarca.* General dropsy.
- Anastomose.* To join together by branches.
- Aneurism.* A blood tumor caused by stretching the coats of an artery.
- Anthelmintic.* A worm medicine.
- Antiseptic.* That which prevents putrefaction.
- Ascites.* Dropsy of the belly.
- Atrophy.* Wasting of the flesh.
- Axilla.* Armpit.
- Bronchia.* The two tubes, and their branches, which arise from the branching of the windpipe.

Calculi. Gravel or stone found in the liver, kidneys, and bladder.

Capsule. A membrane covering an organ.

Catamenia. The monthly flow of females ; the menses.

Cathartic. A purging medicine.

Catheter. A tube for drawing off the urine.

Caustic. Any substance that corrodes or burns the flesh when applied to it.

Cerebellum. The hinder and lower part of the brain.

Cerebrum. The front and upper portion of the brain.

Chronic. Of long duration.

Cicatrix. A scar.

Clyster. An injection ; liquid thrown into the intestines.

Coma, Comatose. Profound sleep.

Confluent. Running together.

Constipation. Obstructed bowels.

Contusion. A bruise.

Defecation. The act by which the bowels are freed of their contents.

Delirium. Wandering of the mind.

Depuration. Cleansing from impurities.

Diagnosis. Distinguishing one disease from another.

Diaphoretic. Medicines that cause sweating.

Diathesis. Disposition or constitution of the body.

Diuretic. A medicine that occasions an increased flow of the urine.

Efflorescence. Eruptions ; a rash, or a redness of the skin.

Effluvia. Emanations from substances, as from flowers, or from putrid matter.

Effusion. The same as *Affusion*, which see.

Eliminating. Discharging ; throwing off.

Emetic. Any substance taken to cause vomiting.

Emmenagogue. A medicine that occasions increased bleeding in connection with the menses.

- Enema.* An injection.
- Enteritis.* Inflammation of the intestines.
- Epidemic.* A prevalent disease.
- Epigastric.* That part of the belly that lies over the stomach.
- Exacerbation.* An increase of the manifestations of the symptoms in a disease.
- Excrescence.* A preternatural growth, as a wart.
- Expectoration.* To expel from the chest matters collected there.
- Extravasation.* The same as *Affusion*, which see.
- Exudation.* Sweating.
- Fæces.* The contents of the large intestine; the matter discharged from the bowels.
- Fauces.* The narrow passage between the mouth and throat.
- Febrile.* Pertaining to fever.
- Fetid.* Having an offensive smell.
- Fœtus.* The child while in the womb.
- Filter.* A strainer.
- Fistula.* A pipe formed from an abscess.
- Flaccid.* Soft and weak.
- Flatulency.* Wind in the stomach and intestines.
- Flux.* An unusual discharge from the bowels.
- Fundament.* The bottom; the anus.
- Fungus.* A spongy growth; proud flesh.
- Gangrene.* Mortification of a part while the body still lives.
- Gargle.* A wash for the mouth.
- Gastric.* Belonging to, or relating to the stomach.
- Hæmorrhage.* Bleeding; a discharge of blood.
- Hæmorrhoids.* The piles.
- Hepatic.* Pertaining to the liver.
- Hereditary.* That which is communicated from parents.

Herpes. An eruption of the skin; tetter, ring-worm, salt-rheum.

Hernia. A rupture and protrusion of some part of the abdomen.

Hygiene. The art of preserving the health.

Idiopathic. Any primary disease is idiopathic.

Indurated. Hardened.

Ingestion. Placing within the stomach.

Ingesta. That which is within the stomach.

Injection. Liquid thrown into the bowels with a syringe.

Lethargy. Excessive sleepiness.

Lesion. A hurt, wound, or disorder.

Lochia. A bloody and watery discharge, following the delivery of a child.

Lumbago. Rheumatism in the loins or small of the back.

Malaria. Any emanation from sick or dying bodies, or from decomposing animal or vegetable substances.

Menses. The monthly discharges of females.

Metastasis. A removal of a disease from one part of the body to another.

Micturition. The act of passing water.

Miasma. Same as *Malaria*, which see.

Morbid. Diseased, or relating to disease.

Morbific. Causing disease.

Narcotic. A stupefying drug.

Nausea. Inclination to vomit.

Omentum. The fatty membrane that covers the intestines; the caul.

Ophthalmia. Inflammation of the eyes.

Organic. Composed of organs.

Osseous. Relating to bones.

Ova, Ovum, Ovules. Germinal particles ; eggs.

Ovaries. The organs which produce the ova, or eggs.

Panacea. A pretended universal remedy.

Paralysis. A loss of voluntary motion.

Paroxysm. A periodical fit of a disease.

Permeate. To pass through the pores.

Polypus. A tumor that forms on a mucous membrane.

Prophylactic. A preventive, or a preservative.

Pulmonary. Relating to the lungs.

Purulent. That which has the character of pus.

Pus. The yellow or white matter formed by inflammation, such as is discharged from sores.

Rectum. The lower part of the large intestine.

Regimen. The regulation of the diet.

Resuscitate. To recover from apparent death.

Saccharine. Having the quality of sugar.

Saliva. Spittle.

Sanguine. Bloody ; blood-like.

Scirrhus. Hard ; knotty ; hard cancer.

Scorbutic. Pertaining to scurvy.

Sedentary. Inactive.

Semen. The fluid secreted by the testicles.

Serous. Thin ; watery.

Serum. The watery portion of the blood.

Stranguary. Extremely difficult and painful urination.

Stricture. A contracted condition of some tube, duct, or passage.

Suppurate. To form pus.

Syncope. Sudden and complete fainting.

Tenesmus. Bearing down ; frequent, vain, and painful desire to evacuate the bowels.

Tonic. Giving strength.

Torminia. Gripping pains in the bowels.

Traction. Gradual, steady pulling.

Trachea. The windpipe.

Transpiration. Passage of fluid outward.

Tubercle. A tumor in the substance of an organ.

Tumefaction. Swelling.

Ulcer. An open sore.

Umbilicus. The navel.

Ureter. A tube or duct through which urine is conveyed from the kidneys to the bladder.

Urethra. The canal through which the urine passes when discharged from the bladder.

Uterus. The womb; the organ containing the child before its birth.

Vagina. The canal that leads from the external organs of generation to the womb.

Venery. Sexual intercourse.

Vertigo. Dizziness.

Vesication. Raising blisters.

Vesicle. A small cavity.

Viscera. The internal organs of the body.

Viscid. Sticky.

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PLAN OF ACTION.

In order to accomplish the desired object, which has already been set forth, the conductors of the *Reformer* have adopted this as a fundamental principle of action: Physical reform is the basis of all reform. The truth of this principle is evident when we consider,

1. The intimate relation of mind and matter, and the wonderful manner in which the mind is affected by the varying conditions of the body; so that whenever the body suffers from serious injury of any kind, the mind is correspondingly impaired, as is seen in the fever patient raving in the wildness of delirium.

2. The fact that the condition of a person's moral organs depends so largely upon that of the body and mind ; as is illustrated by the victim of despair who labors under the impression that his doom is sealed, when his only difficulty is a torpid liver ; or the irritable, misanthropic dyspeptic, whose unhappy mental condition is wholly due to a disordered stomach.

In view of these facts, it appears that the most important branch of the work of the *Reformer* is in the direction of physical improvement and reform, since the success of each of the other branches is contingent upon the success of this.

But while constantly aiming at reform, and so contending against adverse and opposing influences, the conductors of the *Reformer* are careful to avoid those extremes into which so many reformers allow themselves, unwittingly, perhaps, to be led. They also ever seek to manifest that liberality of sentiment which is in harmony with the spirit of the present time, when every man is expected and urged to think and form opinions for himself. By so doing, they hope to incite a spirit of investigation, which, when pursued with candor and an unbiased judgment, can hardly fail to convince the reader of the truth of the positions taken.

Those who conduct the *Reformer* endeavor to fill its columns with matter of practical importance and interest to every subscriber. Thorough instruction is given in regard to these two most important subjects,

HOW TO RECOVER HEALTH, AND HOW TO RETAIN IT,

These subjects being treated by those whose personal experience enables them to speak understandingly. In fact, we put forth every effort to make the *Reformer indispensable to every household*, and of especial interest to that exceedingly large and unfortunate class of individuals who have been brought into the condition of invalids by disease. But the subject of health, proper, by no means receives exclusive attention. Considerable space is each month devoted to general literature, important and interesting discoveries in the arts and sciences, and such other subjects as are of general interest.

PRESENT PROSPECTS.

Notwithstanding the numerous and almost insurmountable obstacles with which it has been obliged to contend, the *Reformer* has made constant and rapid progress in extending its sphere of usefulness, until it is now established upon a firm and satisfactory basis, being furnished with an able corps of contributors, numbering its patrons by thousands throughout the United States and Territories.

The publishers of this journal are actuated by purely philanthropic motives, and hence offer it at such terms as will enable every person to obtain it who has any degree of interest in the important subjects, **HOW TO GET WELL** and **HOW TO KEEP WELL**. Terms, \$1.00 a year, in advance. Specimen copies sent free on application. Address, **HEALTH REFORMER, Battle Creek, Mich.**

THE HEALTH INSTITUTE.

LOCATION.

THIS model health institution is situated in the most healthful and delightful part of the proverbially neat and enterprising city of Battle Creek, Michigan, an important station on the Michigan Central R. R., about half way between Chicago and Detroit. Several railroads intersect at this point, making it easy of access from all directions.

GROUNDS.

The grounds are ample, consisting of a site of about twenty acres, a large portion of which is covered with shade, ornamental, and fruit trees. They are also high, overlooking the entire city, and affording a fine view of the landscape for miles around.

The soil is of such a nature that mud is almost entirely unknown, a few hours of sunshine after a rain rendering the walks and roads in and about the grounds so free from dampness that the most delicate invalid may indulge freely in the benefits of out-of-door life and exercise.

In front of the main building, and between it and the road, is a beautiful grove, which extends along the street in each direction from it, some thirty rods, affording a

delightful place of resort during the summer months. The grove is also provided with such means of exercise and recreation as are both healthful and entertaining ; as croquet grounds, conveniences for gymnastic exercises, etc.

BUILDINGS.

These comprise a large main building, and seven fine cottages, all situated upon the same site. The main building contains commodious parlors, dining halls, bath and movement rooms, etc., etc., while the other buildings are fitted up as private apartments for patients. By this means are secured that quiet and retirement which are of such paramount importance to the invalid, and which cannot be obtained in an institution where scores of suffering individuals are crowded together under one roof.

ROOMS

Are large and well ventilated, and are furnished much better than in any other institution of the kind, thus affording the patient all the luxuries and comforts which he enjoys at home, and many more.

PLAN OF TREATMENT.

At this institution diseases are treated on strictly hygienic principles ; that is, only those remedies are employed which will assist nature in her healing work, and will in no way endanger the life or constitution of the patient. Drugs and poisons of every description are entirely discarded as curative agents ; but all known means

of restoring health are constantly employed, poisons alone being excluded from our *materia medica*.

OUR REMEDIES

Then are Light, Water, Air, Electricity, Exercise, Cheerfulness, Rest, Sleep, Proper Clothing, Proper Food, and, in fact, all Hygienic and Sanitary Agents.

OUR PHYSICIANS.

The medical faculty of the institution is composed of an adequate number of conscientious, watchful and efficient physicians, who give personal and unremitting care and attention to their patients, anticipating, as far as possible, their wants, carefully studying their cases, and applying every means in their power to restore them to health.

OUR FACILITIES.

Very few institutions are provided with conveniences and advantages equal to ours. Our bath rooms are both capacious and convenient, and are furnished with an inexhaustible supply of pure, soft water. Several rooms are also prepared especially for the administration of the Sun-Bath.

SPECIAL ADVANTAGES.

In addition to the appliances usually employed in such institutions, we make use of the Hot-Air Bath (which possesses all the virtues of the Turkish-Bath, while avoid-

ing its evils), the much-renowned Electric or Electro-Thermal-Bath, the Lift Cure, and the celebrated Swedish Movement Cure, which are so successful in many cases which cannot be reached by other means.

D I E T.

While we reject from our dietary those pernicious drinks and condiments which are the potent agents in bringing thousands to untimely graves, we take care to supply our table with an abundance of nutritious and palatable food, consisting of fruits, grains, and vegetables. We do not enforce, however, a radical and immediate change from old habits, but give the patient time to accommodate himself to the new diet.

O U R S U C C E S S.

The class of individuals who seek aid at our institution is very largely composed of those who are afflicted with chronic diseases, and who have been drugged and poisoned until their vitality has become well-nigh exhausted, and they are given up by their friends and medical advisers to die. Under these circumstances, they come to us as a final resort, and, thanks to a true and potent system of treatment, this last hope is seldom disappointed. Among the hundreds who have thus come to us and found relief from their ills and pains, during the eight years since the establishment of this institution, the following cases, here briefly reported, have been treated within the last few months:—

CONSUMPTION.

Many cases might be cited, and references given, in which this most insidious and hopeless of all diseases has been robbed of its victims and a new lease of life given them by a few months' stay with us.

DYSPEPSIA.

Hundreds have come to us afflicted with this most deplorable disease in its most aggravated forms, and, after staying a proper time, have returned to their friends relieved of their sufferings.

PARALYSIS.

Even this formidable disease is, in many cases, treated with entire success, the use of paralyzed organs being wholly restored.

DROPSY.

In one case, the patient came to the Institute after having been given up to die by friends and physicians. He had been tapped many times, as the accumulation of fluid was so rapid that respiration was rendered extremely difficult in a few days. Cured in a few months, and reports himself still in good health.

SCROFULA.

Many cases of scrofula, often complicated with dyspepsia, affections of the lungs, etc., have been treated with marked success. In one case, the patient had sev-

eral large tumors, one nearly as large as an ordinary bowl. After a few weeks' treatment, nature began the curative work of absorption, thus effecting a cure. This case had been considered entirely hopeless.

But space will not allow further description of the desperate cases which have received treatment and restoration at this institution; but we may add that equally good success has attended the treatment of Asthma, Kidney Difficulties (of the worst forms), Chronic Diarrhea, Chronic Congestion of the Brain, Cancer, Palpitation of the Heart, Rheumatism, Neuralgia, Epilepsy, Bronchitis, Piles, Ulceration of Bowels, Catarrh of Bladder and Bowels, Constipation (in some cases without a natural passage for many years), Spermatorrhea, and, in fact, Chronic Diseases of all kinds.

The most flattering success has attended the treatment of Uterine Difficulties, and all other Diseases of Women, which receive special attention.

ACUTE DISEASES.

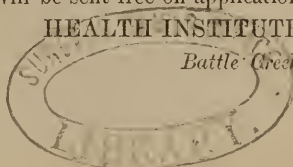
Our mode of treatment is specially adapted to this class of diseases, meeting with the most uniform success with Fevers and Inflammations of every type and form, all Eruptive Diseases, etc., etc.

To the sick, we say, Do not delay seeking our assistance until your case is hopeless. Write at once for our Circular, which will be sent free on application.

Address,

HEALTH INSTITUTE,

Battle Creek, Mich.





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